

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

November 27, 2012

Ms. Jamie Bernard-Drakey  
U.S. EPA, Region VII  
Superfund Division  
11201 Renner Blvd.  
Lenexa, Kansas 66219

Dear Ms. Bernard-Drakey:

The Missouri Department of Natural Resources (Department), Hazardous Waste Program's (HWP) Site Assessment Unit (SAU) has completed the following reports under the Superfund (SPF) consolidated agreement. As per the grant requirements, enclosed are two electronic copies of each report.

Site Name	Report Type
Kenrick Plaza Redevelopment Site	Pre-CERCLIS Site Screening (SS) Form
Solo Cup Manufacturing Facility	Pre-CERCLIS Site Screening (SS) Report

A brief summary of the findings for each site is provided below:

**KENRICK PLAZA REDEVELOPMENT SITE**

Kenrick Plaza is located at the intersection of Watson Road and Trianon Parkway in the City of Shrewsbury, St. Louis County, Missouri. The Plaza is comprised of approximately 24.4 acres and is zoned C-2 Planned Commercial. When initially developed, Kenrick Plaza would have been classified as a "community shopping center." Typically, the primary purpose of this type of shopping center was to provide daily goods and services to the surrounding community from an approximate geographic area of 2 miles.

The Kenrick Plaza shopping center and movie theater opened in 1984. The theater closed in 2007. While some tenants remain in the shopping center, the majority of the space is vacant. A blighting study performed for the City of Shrewsbury concluded that a variety of blighting conditions were present and that the Plaza meets the definition of "Blighted Area" as stated in Chapter 353 of the Revised Statutes of the State of Missouri. On March 10, 2010, the City of Shrewsbury issued a request for Redevelopment Proposals for the Kenrick Plaza Redevelopment Area. In September of 2010, the Shrewsbury Board of Aldermen selected G.J. Grewe as its preferred developer.



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Citizens of Shrewsbury, Missouri submitted letters to the United States Environmental Protection Agency (EPA) Region 7 expressing concerns of environmental implications that may arise if the Kenrick Plaza is redeveloped. The letters claim that the site contains polluted soil that is a result of historic dumping of lawn mowers, used motor oil, etc. in the 1950s. The citizens are also concerned that the construction of and day to day operation of the proposed Super Wal-Mart store will result in health hazards that include the release of toxins and polluted air. EPA Region 7 referred the letters to the Department's Superfund program.

Currently we have no documentation of a hazardous substance release other than allegations of historic dumping. Therefore, the groundwater, soil and air pathways were not evaluated. The site is not recommended for entry onto the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) at this time. The additional concerns of air pollution from future development of the site cannot be addressed by the Superfund Program.

Jonathan Greever, the City of Shrewsbury's Director of Administration, stated in a telephone conversation on October 3, 2011 that the Kenrick Plaza site will undergo all necessary due diligence if/when the plaza is redeveloped.

#### **SOLO CUP MANUFACTURING FACILITY SITE**

The Solo Cup Manufacturing Facility site is located at 1100 North Glenstone Avenue, in Springfield, Greene County, Missouri. Operations since 1951 have included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products. The Solo Cup Company, which acquired the plant in 2004 and ended manufacturing operations in 2011, has proactively conducted a number of environmental investigations at the site including the removal of released petroleum product with Department approval. The Pre-CERCLIS SS investigation was initiated in response to the Department's HWP Tanks Section's January 31, 2012 letter requesting the Superfund Section investigate non-petroleum chemicals detected at the site. A site reconnaissance was conducted on June 6, 2012, and monitoring well sampling was conducted on September 19, 2012.

Based on the review of sampling data collected from 2010 through 2012 by the Solo Cup Company and the Department, there is a release of hazardous substances (carbon tetrachloride, chloroform, trichloroethene (TCE), 1,1-dichloroethene, cis-1,2,-dichloroethene, dichlorodifluoromethane, trichlorofluoromethane) to shallow groundwater at the site. However, only carbon tetrachloride, chloroform, and TCE concentrations exceed Maximum Contaminant Levels (MCLs) and/or Regional Screening Levels. Bromodichloromethane and chloroform, which were measured in the public drinking water well on-site at levels below MCLs, may be reflective of chlorination and/or impact from the site. There does not appear to be an immediate risk to the present non-residential use of the site, but a risk may exist for potential on-site construction workers.

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The site warrants entry onto CERCLIS; however, at this time the Department Superfund Section wishes to assess the stability of volatile organic compounds contamination at the site for 12 months prior to confirming whether or not to recommend the site for placement on CERCLIS. At the Department's request, Solo Cup Company has agreed to conduct quarterly monitoring and sampling of the shallow monitoring well network and on-site public well for a year. The Department will make a CERCLIS placement determination following the fourth quarter sampling estimated to occur in August 2013.

If you have any questions or concerns, please do not hesitate to contact me by mail at the Department of Natural Resources, Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176, by phone at (573) 751-1087 or 1-800- 361-4827, or by e-mail at [julieann.warren@dnr.mo.gov](mailto:julieann.warren@dnr.mo.gov).

Sincerely,

HAZARDOUS WASTE PROGRAM



Julieann Warren, Chief  
Site Assessment Unit  
Superfund Section

JW:js

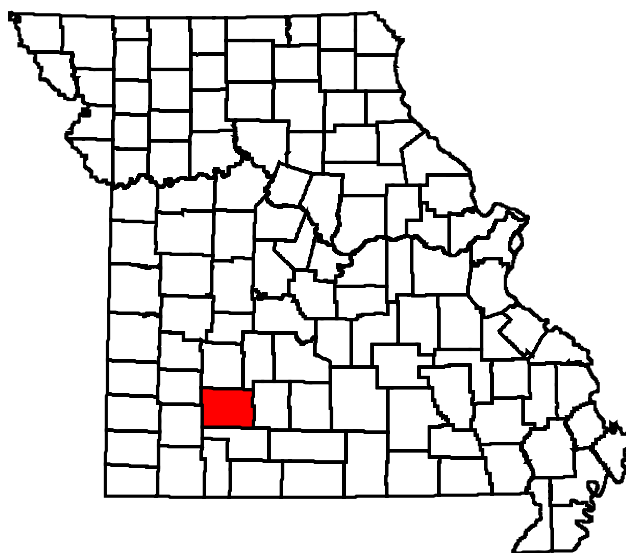
Enclosures

C: Mr. Ron King, U.S. EPA, Region VII

# **PRE-CERCLIS SITE SCREENING REPORT**

## **Solo Cup Manufacturing Facility Site Greene County, Missouri**

November 26, 2012



Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program



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# I. PRE-CERCLIS SITE SCREENING NARRATIVE REPORT

## **SOLO CUP MANUFACTURING FACILITY SITE**

### **Pre-CERCLIS Site Screening Narrative Report**

#### **A. Introduction**

The Missouri Department of Natural Resources (Department), through a Cooperative Agreement (CA V997381-07-0) with the U.S. Environmental Protection Agency (EPA), conducted a Pre-CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) Site Screening (SS) at the Solo Cup Manufacturing Facility (Solo Cup) site in Greene County, Missouri. The purpose of this investigation was to determine whether there has been a release of a hazardous substance into the environment, or a substantial threat of such a release, which may present a danger to human health or the environment. If such a release has occurred, the site may be eligible for entry onto CERCLIS, EPA's inventory of potential hazardous substance sites that are evaluated under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) (USEPA, 1990; USEPA, 1996).

The Solo Cup Manufacturing Facility site is the location of a manufacturing facility which operated under different names and ownership from 1951 to 2011. The last occupant in 2011 was Solo Cup Company (Solo Cup Co.). According to a Phase I Environmental Site Assessment prepared by Bureau Veritas North America, Inc. (Bureau Veritas) for Solo Cup Co., operations since 1951 have included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products. This SS investigation was initiated in response to a referral by the Department's Hazardous Waste Program (HWP) Tanks Section in a letter addressed to Solo Cup Co.'s attorney, Ms. Lisa Zebovitz of Neal, Gerber & Eisenberg, LLP, dated January 31, 2012. The Tanks Section requested the Department's HWP Superfund Section investigate non-petroleum chemicals detected at the site.

The scope of this SS investigation included a review of file information and a series of reports prepared by Solo Cup Co.'s environmental consultant, sampling of monitoring wells, and collection of additional non-sampling information. A site reconnaissance was conducted on June 6, 2012, and monitoring well sampling was conducted on September 19, 2012.

## **B. Site Description**

The Solo Cup site is located at 1100 North Glenstone Avenue, in Springfield, Greene County, Missouri. Figure 1 in Section III is a site location map. The geographic location of the site is C½, W¼, Section 17, Township 29 North, Range 21 West, Springfield 7.5-Minute Quadrangle (MDNR, 2012e). Geographic coordinates of the site as measured in the drive-in area north of the loading entrance with a Trimble Geoexplorer XT global positioning System (GPS) unit are Northing 4119153.843 m, Easting 476987.217 m, North America Datum of 1983, UTM zone 15N (MDNR, 2012a). Directions to the site are as follows: From Jefferson City, travel southwest on US Highway 54 West for about 57 miles. Just before Camdenton, exit onto Missouri Highway 5 South and travel south for about 24 miles. Turn left onto North Jefferson Avenue and travel for about 1.6 miles before merging onto Interstate 44 West. Travel southwest on Interstate 44 West for about 48 miles into Springfield. Take Exit 80B and turn left (south) onto North Glenstone Avenue and travel for about 2.3 miles. Turn left (east) onto East Pythian Street and travel east for about 500 feet. The site encompasses an area to the left (north), straight ahead and to the right (south) of this location. The gated entrance to the loading area is located to the north.

The following site description is based on Department staff observations and discussions with Bureau Veritas' representative during the June 6, 2012 site reconnaissance (MDNR 2012b). References to previous land use are taken from Phase I and Phase II Environmental Site Assessment (ESA) reports prepared by Bureau Veritas for Solo Cup Co. in 2010 (BVNA, 2010a and BVNA, 2010b). Please refer to these documents for a more detailed description. Site conditions as observed on June 6, 2012 are also presented in Figure 2 of Section III and photographs in Section IV.

The property encompasses an area of about 63 acres in a commercial/business area of Springfield. The facility can be viewed as occupying the northwest, northeast and southeast quadrants of a rectangular lot bound by Bergman Street on the north, North Glenstone Avenue on the west and Chestnut Street/US-65 Business on the south. Commercial businesses AAMCO Transmissions and Hertz, and an office building for Q & Company were observed north of Bergman Street. Evangel College occupies land west of North Glenstone Avenue. A

commercial building east of the site was reportedly formerly leased by Solo Cup Co. as a warehouse.

Access to much of the Solo Cup site including the external loading and storage areas is restricted by wire fencing and gates. Building structures on the northern quadrants, where manufacturing operations occurred, consist of four buildings conjoined in an 'n' shape. The buildings are numbered 1, 2, 3 and 4 in the ESAs. An enclosed hallway connects Building 4 to the conjoined Buildings 5 and 6 on the southern quadrant. The six buildings span a total area of about one million square feet. The buildings on the north portion are currently vacant and empty except for the boiler room located in the southern end of Building 1. The two conjoined buildings on the south portion have been leased to new businesses following the end of Solo Cup operations at the site. A parking lot and grass lawn have been developed south of Building 6. At the time of the Phase I ESA, the area south of Building 6 was described as undeveloped land. Enclosed hallways connect Buildings 5 and 6 to the off-site building on the property immediately east of the Solo Cup site, which was formerly leased by Solo Cup Co. as a warehouse (Figure 1 of Section III).

The drive-in and loading area south of Buildings 1-4 is asphalt covered. An underground tunnel transporting utilities to the facility and three ground-level rail spurs ending at shipping/receiving points are located in this area (Photographs 2, 7 and 8). Seven of ten flush-mounted monitoring wells installed in 2010 are also located in this external area. Three monitoring wells were installed inside Building 1. Figure 4 in Section III shows the locations of all the monitoring wells.

During the June 2012 site visit, aboveground storage tank (AST) concrete pads located on both the south and north sides of the buildings on the north portion of the property were observed to be vacant. Immediately east of the south AST pad, a subsurface area of previously released petroleum product was observed to have been excavated and filled in with gravel (Photographs 1 and 2). Immediately north of the AST pad and adjacent to Building 1's south wall, two below-grade concrete-walled brine pits were observed to have been cleaned out, filled in with gravel and paved over (Photograph 4). Two red 10,000-gallon ASTs used to store No. 2 fuel oil were located within a concrete dike south of the south AST concrete pad (Photograph 1). A well house encompassing an industrial public high capacity well; a 250,000-gallon water tank; a

series of chillers and transformers were also observed south of Building 1 (Photographs 1-3 and 15).

A vacant waste shelter was located east of the Buildings 4 and 5 connector (Photograph 9). The waste shelter consisted of a bermed concrete floor estimated to be 100 feet by 50 feet, surrounded by a wire fence and gate, and covered with a metal roof. A bermed collection sump adjoins the southwest corner of the shelter (Photograph 10). The floor of the waste shelter was marked with yellow painted lines. 1210 SLUDGE, 1210 LIQUID, 128? SLUDGE, and 128? LIQUID were written on the floor in yellow paint. '?' indicates that the digit was not visible (Photograph 11).

Property north of the buildings on the northern quadrants was covered by grass and vacant AST concrete pads (Photograph 13). Fencing divided the area into two areas. The Phase I ESA noted that 14 ASTs were used to store polystyrene resin pellets and two ASTs stored wax on the north side of the building. According to the Phase I ESA, carbon dioxide and Z2 refrigerant were also stored in ASTs north of the building.

### **C. Site History/Ownership Information**

The following site history was taken from the Phase I ESA prepared by Bureau Veritas for Solo Cup Co. (BVNA, 2010a):

Historical research has established the use of the subject property since 1938. Based on historic information reviewed during the Phase I ESA, the subject property consisted of undeveloped and/or agricultural land prior to the mid to late 1930s. The Wagon Wheel Restaurant and Filling Station was located at 1200 North Glenstone Avenue (northwest portion of the subject property) by 1938 and at least until 1946. The subject property address also was listed as the Glen View Company (real estate) in 1941 and 1946.

The facility has operated as a manufacturing plant since its initial construction in 1951. Building 1 was constructed in 1951, and Buildings 2, 3 and 4 were constructed as additions between 1952 and 1957. Building 5 was constructed in 1957, along with the passageway to Building 4.



Building 6 was constructed in 1965. In 1985, passageways were constructed between Buildings 5 and 6 and the building located on the eastern adjoining property.

Operations since 1951 have included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products. Over the history of the facility, above ground and underground storage tanks have been located on the property. Operations included use of solvent-based inks for printing until approximately 1996, and use of 1,1,1-trichloroethane (TCA) as a cleaning solvent associated with welding activities. By the time of the Phase I ESA in 2010, manufacturing at the plant was restricted to Styrofoam Trophy® cups and paper soufflé cups (small pleated paper cups used for serving condiments). At that time, the facility used only water-based inks. Trophy® cups were made by first extruding resin pellets into foam and then forming the two piece foam cup in a manner similar to a paper cup. Carbon dioxide and refrigerant R-152a (also referred to as Z2) were used as blowing agents in the foam extrusion process. Trophy® cups were made in different colors and had printing on the finished cup. The printing was either performed on the extruded foam roll prior to assembly or completed in-line during assembly (BVNA, 2010a).

The plant has changed ownership and/or name a number of times over its history. According to the Springfield News-Leader, the plant opened in 1952 as Lily Tulip Cup Corporation with about 1,700 employees. In 1986, Fort Howard Cup Corporation purchased Lily Tulip, but the plant name remained Lily Tulip. In 1988, a group of investors purchased Fort Howard, which was later bought by Sweetheart Cup Company in 1989. Solo Cup Co. acquired the plant in 2004 when it bought SF Holdings, Sweetheart's parent company. The final regular work shift ended in March 2011 (News-Leader, 2012). Lily Tulip and Sweetheart Cup Company are site aliases in Department records.

#### **D. Previous Investigations and Cleanup Activities**

Phase I Environmental Site Assessment, October 2010 (BVNA, 2010a): In 2010, Solo Cup Company retained Bureau Veritas to conduct a Phase I ESA of the Solo Cup property in association with a potential financial transaction. The Phase I ESA, completed in October 2010 while the facility was still operational, documented the site history and operations, equipment,

materials and hazardous substances observed at the site during visual reconnaissance conducted on July 14, 15 and 16, 2010. Until approximately 1996, operations involved the use of solvent-based inks for printing purposes. Staining was observed in and around the former ink dispensing area. Reportedly, 1,1,1-trichloroethane (TCA) was utilized. The Phase I references Department records of the removals of underground storage tanks (USTs) containing solvents, acetate and No. 6 fuel oil in the 1980s and 1990s. USTs were not located on the property at the time of the Phase I. The following table from the Phase I report summarizes the ASTs observed on the property:

<b>Exhibit A: ASTs on Solo Cup Property During 2010 Phase I ESA (BVNA, 2010a)</b>					
<b># Tanks</b>	<b>Size (gallons)</b>	<b>Contents</b>	<b>Containment</b>	<b>Location</b>	<b>Status</b>
10	10,000	Wax	None	S of Bldg 1	Out of Service
14	10,000	Wax	None	S of Bldg 1	Out of Service
1	250,000	Water	None	E of Bldg 5 (near fire pump house)	Active
1	500	Mineral Spirits	Block wall Dike	S of Bldg 1	Out of Service
1	5,000	CO2 and R-152a (Z2)	None	N of Bldg 2	Active
14	10,000	Polystyrene resin pellets	None	N of Bldg 2	Active
2	10,000	No. 2 Fuel Oil	Concrete Dike	S of Bldg 1	Active
1	4,000	No. 2 Fuel Oil	Integral to Shell	S of Bldg 1	Out of Service
1	4,000	Potable Water	None	S of Bldg 1	Active
2	250	No. 2 Fuel Oil	Block Wall Dike	E of Bldg 5	Active
1	250,000	No. 6 Fuel Oil	Earthen Berm	SE of Bldg 4	Out of Service
3	10,000	Propane	None	SE of Bldg 4	Active
2	unknown	R-11 and R-12 Refrigerants	None	E of parking area	Empty. Sold; to be picked up by buyer
2	unknown	Wax	None	N of Bldg 2	Out of Service

The Phase I ESA noted the following recognized environmental conditions related to the property:

- Eleven historic USTs removed without completed documentation of closure and evidence of releases indicated.
- Releases of No. 6 fuel oil from ASTs.
- Historic operations utilizing solvent-based inks, and use of 1,1,1-trichloroethane (TCA) as a cleaning solvent.
- Possible historic gas station use on the northwest corner of the subject property between at least 1938 and 1946.
- Placement of building materials and other debris as fill on 12 acres of undeveloped areas of the subject property.

The Phase I ESA recommended a subsurface investigation to evaluate the potential for soil and/or groundwater impact in the vicinity of the former subject property USTs, manufacturing areas, downgradient areas and former filling/service station.

Limited Phase II Environmental Site Assessment, October 2010 (BVNA, 2010b): In 2010, based on the Phase I ESA findings, Solo Cup Company retained Bureau Veritas to conduct a Limited Phase II ESA of the Solo Cup property. The Phase II ESA included advancement of 41 borings around areas of concern, and collection of 35 soil and 17 groundwater samples and one petroleum free product sample in September 2010. Boring and sample locations were selected by the property buyer's representative. Figures 3A and 3B in Section III (prepared as Figures 1A and 1B by Bureau Veritas) show the soil boring locations.

Borings were advanced in and around the following external locations: former gas station, north AST area, former #6 fuel oil USTs (also south AST area), air tanks, transformer area, former 5kVA transformer, former UST area/general, #2 fuel oil area, fuel oil release area (southeast corner of Building 4), fuel oil AST, waste storage area, former drum storage area (north of Building 5), storm water ditch/fuel oil release (northeast corner of Building 5), pump house (east of Building 5) and uncontrolled fill areas (south of Building 6). Borings were advanced in the following internal locations within Building 1: former ink storage area, ink usage area/tunnels, current ink storage area, and ink storage/use areas. Free product was encountered at two locations, BV-12 (Former #6 fuel oil USTs area) at 2.8 feet (ft) below ground surface (bgs) and BV-FP-5 (about 50 ft north of BV-12) at 5 ft bgs.

Soil samples were selected from boring cores based on field photoionization detector (PID) screening results and visual observations. Groundwater was sampled where it was encountered by installing a 1-inch PVC slotted casing and then using a hand pump. One free product sample was collected from BV-12 and analyzed as a solid. Samples were analyzed for volatile organic compounds (VOCs); total petroleum hydrocarbons (TPH) as gasoline range organics (TPH-GRO), diesel range organics (TPH-DRO) and oil range organics (TPH-ORO); polynuclear aromatic hydrocarbons (PAHs); and polychlorinated biphenyls (PCBs).

Tables 1 and 2 (prepared by Bureau Veritas) in Section V report the soil analytical results. Table 3 in Section V is a compilation of results for groundwater samples with detections collected from the site since 2010, including the Limited Phase II ESA results. With respect to the Limited Phase II ESA investigation, PCBs were not detected in the soil samples. VOCs, PAHs, and TPHs concentrations detected in soil and groundwater were compared to Missouri Risk-Based Corrective Action (MRBCA) Default Target Levels (DTLs). Bureau Veritas noted that based on the analytical data, there were no exceedences of MRBCA DTLs in investigated areas, with the exception of free product and petroleum hydrocarbons, VOCs and/or semi-volatile organic compounds (SVOCs) in soil and/or groundwater at BV-12, BV-19, BV-FP-5 and BV-FP-6, which are in the vicinity of former No. 6 fuel oil USTs. Bureau Veritas stated that the Department was notified of the observed impacts on September 23, 2010.

Monitoring Well Installation and Groundwater Sampling, November 2010 (BVNA, 2011): Solo Cup Company retained Bureau Veritas to install and sample monitoring wells on the site to further evaluate petroleum hydrocarbon and chlorinated solvent impacted groundwater identified in the limited Phase II ESA. Monitoring well locations were based on the Phase II findings and discussion with the buyer's representative, Environmental Works, Inc. Figure 4 in Section III (provided by Bureau Veritas) shows the monitoring well locations on the site. The groundwater results are summarized in Table 3 of Section V.

Between November 10 and 14, 2010, ten groundwater monitoring wells were installed on the site to depths between 8 and 30 feet bgs. Three of the wells were located inside Building 1. Soil cores were field screened with a PID for VOCs. Based on field screening results and visual observations, one soil sample was collected from MW-02A (BV-02) inside Building 1 and

analyzed for VOCs and TPH-GRO. Groundwater was not encountered in seven (7) of the wells within 24 to 48 hours after installation. Following development, static groundwater levels were measured in the remaining three (3) wells at depths of 10.59 ft bgs (MW-03), 8.86 ft bgs (MW-04) and 27.88 ft bgs (MW-08). Groundwater samples were collected from these three monitoring wells and the on-site industrial/public drinking water well and analyzed for VOCs, PAHs, TPH-DRO, TPH-GRO and TPH-ORO. (The wells were checked quarterly following installation, but later samples were only collected in May 2011 because the wells were often dry).

Geotechnical data indicated that soils at the site are clay, soil type 3 for the MRBCA classification purposes. A silty clay ranging from brown to red was observed from the ground surface to refusal (limestone) with pieces of chert throughout. Limestone bedrock was encountered at depths ranging from 7 ft bgs to 30 ft bgs. In the soil sample collected, fluoranthene, pyrene, TPH-DRO and TPH-ORO were detected below the residential MRBCA DTLs. VOCs and TPH-GRO were not detected. In the groundwater samples, PAHs, TPH-GRO, TPH-DRO and TPH-ORO were not detected above laboratory reporting limits. The groundwater sample from MW-08 contained 1,1-dichloroethene (3.5 ug/L), dichlorodifluoromethane (14.6 ug/L), and trichlorofluoromethane (44.5 ug/L). The only VOC exceedences above residential MRBCA DTLs were trichloroethene (TCE) measured in MW-03 at 9 ug/L and in MW-04 at 11 ug/L. The residential MRBCA DTL for TCE in domestic use water is 5 ug/L.

Free Product Investigation and Removal Action, July 2011 (BVNA, 2012a): Between July 20 and 21, 2011, Bureau Veritas and its sub-contractor mobilized to the site for the source removal of the free product encountered in BV-12 in the vicinity of former #6 fuel oil USTs during the Limited Phase II ESA investigation. Figure 4 in Section III, indicates the locations of BV-12 and the test pit (which became the excavation pit), south of Building 1. The work was conducted according to a Bureau Veritas Work Plan for Free Product Removal and Groundwater Monitoring approved by the Department HWP Tanks Section on April 21, 2011. (By the time the Free Product Recovery report was completed on March 21, 2012, the facility had been decommissioned.)

The excavation pit was approximately 9 ft wide by 21 ft long with an approximate depth of 5.5 ft at the deepest part of the excavation. The excavation was advanced near footers and structures; however, it was not advanced below load bearing structures. Localized free product-containing soil was observed within 1 ft bgs. Free product appeared to be perched on a concrete ledge/concrete pipe chase containing unmarked utility lines/piping. A total of five (5) utility lines/piping were discovered within the excavation; the piping was no longer in service. Approximately 28 tons of excavated free product and impacted soil was transported to the City of Springfield landfill for disposal.

Water was observed following the removal of soil and free product, and the liquids were pumped into drums. Approximately 250 gallons of fluids were removed for disposal as non-hazardous waste. One soil sample collected from below observed contamination and one water sample collected from water removed from the excavation were submitted for laboratory analysis of VOCs, PAHs, TPH-GRO, TPH-DRO, TPH-ORO. In the soil sample, only TPH-ORO was detected, and that at 22.4 mg/kg, a concentration significantly below the MRBCA DTL of 124,000 mg/kg for residential clayey soil. Several compounds were detected in the water sample; however, the concentrations were below the MRBCA risk-based target levels for non-residential dermal contact.

Three monitoring wells, MW-5, MW-6, and MW-9, located downgradient (southeast) and in the vicinity of the excavation test pit were sampled in May 2011. Petroleum hydrocarbon-related compounds detected in the free product area were not detected in these three wells. Bureau Veritas therefore concluded that no further action related to the free product or the release was recommended.

Groundwater Quarterly Monitoring, November 2010-September 2011 (BVNA, 2012a): As stated previously, Bureau Veritas installed 10 monitoring wells on the site in November 2010. The monitoring wells were checked for available groundwater on November 1, 2010; May 1, 2011; June 7, 2011; July 20, 2011; August 18, 2011 and September 16, 2011. Water was often not encountered or inadequate in the wells. Two of the wells (MW-02 and MW-02A) never had water in them. Three wells (MW-05, MW-06 and MW-09) contained water only one (May 2011) of the six dates.



Eight monitoring wells were sampled in May 2011, including MW-05, MW-06, MW-09 located in the vicinity of the excavation test pit. The analytical results are included in Table 3 of Section V. Petroleum hydrocarbon-related compounds were not detected. Chlorinated solvents were detected at concentrations above screening levels.

Tier 1 Risk Assessment for Petroleum Releases at UST sites, March 2012 (BVNA, 2012b): On March 21, 2012, Bureau Veritas submitted a revised Tier 1 Risk Assessment to the Department's, HWP Tanks Section following Department comments on the first submission. The risk assessment was performed following the free product removal from the Solo Cup site and is summarized as follows:

Fuel oil #6 USTs and petroleum hydrocarbon impacted soil were removed in the late 1980s. Impacted soil and free product identified during a Limited 2010 Phase II ESA were removed in July 2011. The source of soil and groundwater petroleum hydrocarbon contamination appears to have been removed from the site. The area of impacted groundwater appears to be limited to the immediate vicinity of the excavation and the remaining concentrations are below the MRBCA RBTLs for the identified pathways.

The on-site and off-site residential pathways do not appear to be complete based on the current and future planned land use of the on-site and off-site adjacent properties. Soil concentrations do not indicate that the indoor inhalation of vapors would be complete on the site. A drinking water well is located near the UST investigation. However, the well did not have detectable concentrations of VOCs when sampled in November 2010. In addition, the drinking water well is over 1,200 feet deep and drawing from an aquifer below the impacted groundwater zone. The on-site construction worker pathway appears to be complete. However, the remaining concentrations in soil and groundwater are below the MRBCA RBTLs.

The site is underlain by illuviated residuum, a clay rich soil with some cherty material. The bedrock below the site is limestone. Groundwater levels in the residuum appear to vary across the site and seasonally. Groundwater levels were between 7 and 16 ft bgs in the monitoring wells near the former USTs in May 2011. Groundwater levels vary approximately 10 ft seasonally at MW-08 drilled 600 ft north of the UST release evaluation area. Based on

groundwater levels measured in May 2011, the groundwater flow is to the southeast in the area of the UST release and identified free product. The groundwater observed during excavation of free product-affected soils appeared to be perched on the west end of the excavation. By the completion of the excavation, the flow of water had subsided, indicating the volume of water was limited. In addition, the water level in the excavation was higher than observed at locations across the site, indicating it was not directly connected with the local water table.

Three monitoring wells downgradient of the USTs (excavation) area did not have detectable petroleum hydrocarbon concentrations. Based on the site hydrogeologic characteristics, length of time since removal of the USTs and impacted soils, groundwater flow direction, and remaining petroleum hydrocarbon concentrations, there does not appear to be the need to conduct additional investigation or remediation. No additional investigation appears to be necessary with respect to the UST impacted soils or groundwater at this time.

On July 19, 2012, the Department Tanks Section issued the Solo Cup Company (addressed to Ms. Lisa Zebovitz) a 'No Further Action Letter' concerning the remediation of the released petroleum product identified during the ESAs. The Tanks Section's determination is contingent on a number of conditions, including the continued non-residential use of the property, the groundwater at the property not being used for domestic consumption, and the responsible party's continued work with the Department's Superfund Section to evaluate non-petroleum chemicals detected at the site (MDNR, 2012c).

#### **E. Site Reconnaissance/Sampling**

The Department's HWP Superfund Section conducted a site reconnaissance on June 6, 2012 as part of the SS investigation. The purpose of the site visit was to gain familiarity with the site which could be helpful in identifying possible sources of non-petroleum based contamination and in planning potential sampling events. Mr. John Rohde of Bureau Veritas, Solo Cup Company's environmental consultant, was present at the site. Mr. Alan Stufflebean, who identified himself as a maintenance worker who worked at the Solo Cup manufacturing facility since 1985, was also present at the site. Mr. Rohde toured the facility with Ms. Ndubuka and identified monitoring wells and other features noted in the Phase I and Phase II ESA reports. The interiors of buildings on the northern quadrants were toured on a golf cart driven by Mr.

Stufflebean. Observations are documented in a site visit memo (MDNR, 2012b) and as photographs in Section IV.

Groundwater sampling was conducted by the Department's Environmental Services Program (ESP) in August-September 2012. The sampling method and analytical results are documented in a Sampling Report in Section VI. The following six (6) monitoring wells, in which chlorinated VOCs had previously been detected, were selected for sampling as part of the SS investigation: MW-07 and MW-08 located in the north end of Building 1 and MW-03, MW-04, MW-05, and MW-06 located east and southeast of Building 1. Based on the history of inadequate water levels in monitoring wells and the severe drought conditions experienced in Missouri in the summer/fall of 2012, groundwater samples were collected using passive sampling methods.

On August 31, 2012, the selected wells were accessed. One diffusion bag sampler (dbs) was deployed in MW-03 and MW-04 each as these were the only wells found to contain sufficient water levels to be sampled. Pre-constructed diffusion bag samplers containing analyte free water were obtained from Columbia Analytical Services located in Rochester, New York. Deployment of each dbs was performed by attaching a weight (minimum one pound) to the bottom of the dbs with a zip lock tie and tying a nylon string to the top of the dbs. The dbs was then lowered to the bottom of the well and the string was tied to the well cap for later retrieval. Dbs retrieval and sample collection was performed on September 19, 2012, after a minimum 14-day equilibrium period suggested by manufacturer's specifications. On September 19, 2012, the diffusion bag samplers were retrieved from the well and emptied into sample jars. Samples were submitted for VOC analysis. At the time of sample collection, dry wells were checked a second time to ensure that no water had infiltrated the dry wells during the 19 day period between dbs deployment and retrieval. After MW-5 and MW-6 were found to be dry, MW-7 and MW-8 were not checked for water.

## **F. Analytical Results**

The groundwater detection results for monitoring wells MW-03 and MW-04 sampled in September 2012 are presented in Table 3 in Section V. Complete laboratory results are included in the Sampling Report in Section VI. VOCs were not detected in MW-03. Only TCE was

measured in MW-04 and at a concentration above screening levels. TCE was measured at 38.1 ug/L exceeding the MRBCA RBTL and maximum contaminant level (MCL) of 5 ug/L, and the EPA Regional Screening Level (RSL) 0.44 ug/L.

Analytical results for groundwater samples collected by Bureau Veritas for Solo Cup in September 2010, November 2010, and May 2011 are also summarized in Table 3 of Section V. Corresponding sample locations are indicated in Figures 3A, 3B and 4 in Section III. A total of ten (10) VOCs have been detected in shallow groundwater during these sampling events at concentrations significantly above background detection levels. It is notable that sampling has been limited by the varied occurrence of groundwater laterally and temporally. For example, MW-02 and MW-02A have never been sampled due to lack of groundwater. A temporary monitoring well located in a public city park (Smith Park shown in Figure 1 of Section III), about 0.6 mile northwest of Solo Cup, was sampled by Department staff in May 2010. VOCs were not detected at Smith Park, which is used as a background reference. Shallow groundwater occurrence at Smith Park was also limited. The Smith Park sampling report is included in Section VI.

Over the course of documented groundwater sampling at the Solo Cup site, chloroform was detected in two sampling events: In September 2010, chloroform was measured in groundwater from borings BV-FP-7 (near MW-05) at 11.1 ug/L, and in BV-31 (near the pump house located east of Building 5) at 18.2 ug/L. Chloroform was also measured in May 2011 in MW-05 and MW-06 at 5.1 ug/L and 6.5 ug/L respectively. The chloroform results exceed the EPA RSL of 0.19 ug/L but fall below the MCL and MRBCA RBTL of 80 ug/L. Carbon tetrachloride was measured at MW-06 at 33.2 ug/L exceeding the EPA RSL of 0.39 ug/L and the MCL and MRBCA RBTL of 5 ug/L. TCE has been detected on numerous sampling events in MW-03 and/or MW-04 at concentrations above the EPA RSL of 0.44 ug/L and above the MCL and MRBCA RBTL of 5 ug/L. TCE has increased over time in MW-04 from 11 ug/L in November 2010 to 38.1 ug/L in September 2012. Cis-1,2,-dichloroethene (cis-1,2-DCE) was also detected in MW-04 at 2.2 ug/L, which is significantly below screening levels. The four (4) monitoring wells discussed thus far are located within 125 feet of each other, east and southeast of Building 1. This area is also east of the former #6 oil and mineral spirits USTs and the former ASTs.

In September 2010, a suite of three VOCs and four PAHs were measured in boring BV-FP-5 at concentrations above EPA RSLs. None of these chemicals were detected in other groundwater samples over the course of investigations at the site. Petroleum-based contaminants related to the previously discussed released and excavated free product were also measured at this location.

1,1-Dichloroethene (1,1-DCE), dichlorodifluoromethane and trichlorofluoromethane were all measured in BV-08 and MW-08, located within 100 ft of each other, in a central portion of Building 1 (corresponds to the former print shop). These three VOCs were measured on three occasions from September 2010 to May 2011 at concentrations below their respective EPA RSL, MCL and MRBCA RBTL screening levels. 1,1-DCE went from 4 ug/L to 3.3 ug/L. Dichlorodifluoromethane went from 8.3 ug/L to 9.8 ug/L. Trichlorofluoromethane went from 39.2 ug/L to 49 ug/L. None of the VOCs detected in groundwater at the site exceed the MRBCA non-residential indoor inhalation of vapor emissions benchmarks.

The Department Public Drinking Water Branch publishes analytical results for groundwater monitoring of industrial/public drinking water wells across the state (MDNR, 2012d). The metals and VOCs analytical results from the 1,256 ft deep industrial/public well on the Solo Cup site for 1995 through 2010 are compiled in Table 4 in Section V. Table 4 also includes results of on-site public well sampling conducted by Bureau Veritas in November 2010 as well as the latest available results for the nearest two active public drinking water wells (both 1,600 ft deep) as background. The complete laboratory reports are included in Section VI. Bromodichloromethane and chloroform are the only VOCs detected in the Solo Cup public well (on three occasions) at concentrations which exceed the EPA RSLs, but are below the MCLs and MRBCA RBTLs. On November 2, 2010, bromodichloromethane was measured at 0.58 ug/L, exceeding the EPA RSL of 0.12 ug/L, but below the MCL and MRBCA RBTL of 80 ug/L. Chloroform was measured at 1.33 ug/L, exceeding the EPA RSL of 0.19 ug/L, but below the MCL and MRBCA RBTL of 80 ug/L. The on-site public well VOC concentrations are comparable to background where bromodichloromethane and chloroform were not detected above the 0.5 ug/L reporting levels. The on-site public well VOC concentrations are significantly lower than chloroform concentrations measured in shallow groundwater at the site (5.1 ug/L - 18.2 ug/L). Bromodichloromethane and chloroform are both byproducts of chlorination.

## **G. Conclusions**

Excluding three VOCs associated with a petroleum release, seven chlorinated solvent VOCs were detected in the shallow groundwater at the Solo Cup Manufacturing Facility site. Of these, carbon tetrachloride, chloroform, and TCE have been measured at concentrations exceeding MCLs and/or Regional Screening Levels. TCE concentrations have been increasing in MW-04. It is not known whether these chemicals are a result of operations at the site. The Phase I ESA noted that operations included use of solvent-based inks for printing until approximately 1996, and use of 1,1,1-trichloroethane (TCA) as a cleaning solvent associated with welding activities. 111-TCA was not detected in groundwater samples from the site. Over the history of the facility, approximately 55 above ground and 11 underground storage tanks have been located on the property.

The site is located in a commercial/business area of Springfield and the shallow water is not used for drinking. Also, due to the karst characteristic of the bedrock, the Springfield Area is designated Sensitive Area C, within which well drilling is currently restricted and controlled by state regulations (CSR, 2010). Bromodichloromethane and chloroform measured in the public drinking water well at levels below MCLs for drinking water may be reflective of chlorination and/or impact from the site. There does not appear to be an immediate risk to the present non-residential use of the site, but a risk may exist for potential on-site construction workers.

The soil under the facility is roughly 30 ft thick beneath the site and has a composition which ranges widely with about 15 to 70 % clay. Besides the southeasterly flow around the excavation area as determined by Bureau Veritas North America, Inc., groundwater flow within overburden is unknown across the site, but likely controlled by extensive karst development within the bedrock. The shallow limestone bedrock is deeply dissolved (karst) and features a highly uneven bedrock surface with cutters and pinnacles along with cave and sinkhole formation (MDNR, 2012e). The clayey regolith and uneven bedrock surface may explain why groundwater, possibly perched, is inconsistently encountered in the monitoring wells installed on the site. Regional groundwater flow within the Springfield Plateau Aquifer near the site is toward the southeast. Depth to groundwater in the aquifer beneath the site is approximately 90 feet deep. Beneath the Springfield Plateau Aquifer, an approximately 40-foot thick confining unit separates



it from the dolomitic Ozark Aquifer. The Solo Cup site industrial/public well is completed in the Ozark Aquifer (MDNR, 2012e).

There is a release of hazardous substances (carbon tetrachloride, chloroform, TCE, 1,1-DCE, cis-1,2-DCE, dichlorodifluoromethane, trichlorofluoromethane) to shallow groundwater at the site; however, only carbon tetrachloride, chloroform, and TCE concentrations exceed MCLs and/or Regional Screening Levels. The site warrants entry onto CERCLIS; however, at this time the Department Superfund Section wishes to assess the stability of VOC contamination at the site for 12 months prior to confirming whether or not to recommend the site for placement on CERCLIS. The Solo Cup Company, which acquired the plant in 2004 and ended manufacturing operations in 2011, has proactively conducted a number of environmental investigations at the site including the removal of released petroleum product. At the Department's request, Solo Cup Company has agreed to conduct quarterly monitoring and sampling of the shallow monitoring well network and on-site public well for a year. The Department will make a CERCLIS placement determination following the fourth quarter sampling estimated to occur in August 2013.

## REFERENCES

USEPA, 1990	National Archives and Records Administration, Office of the Federal Register. U.S. Environmental Protection Agency Hazard Ranking System, 40 CFR Part 300, Appendix A, 55 FR 51583, December 14, 1990.
USEPA, 1996	U.S. Environmental Protection Agency, June 1996 Superfund Chemical Data Matrix (SCDM).
BVNA, 2010a	Bureau Veritas North America, Inc. <u>Phase I Environmental Site Assessment, Solo Cup Company, 1100 North Glenstone Avenue, Springfield, Missouri.</u> October 1, 2010. 23 pages with attachments.
BVNA, 2010b	Bureau Veritas North America, Inc. <u>Limited Phase II Environmental Site Assessment, Solo Cup Operating Corporation Facility, 1100 North Glenstone Avenue, Springfield, Missouri.</u> October 20, 2010. 9 pages with attachments
BVNA, 2011	Bureau Veritas North America, Inc. <u>Monitoring Well Installation and Groundwater Sampling Report, Solo Cup Operating Corporation Facility, 1100 North Glenstone Avenue, Springfield, Missouri.</u> January 20, 2011. 6 pages with attachments
BVNA, 2012a	Bureau Veritas North America, Inc. <u>Summary of Free Product Investigation/Recovery-Revised, Former Solo Cup Facility, 1100 North Glenstone Avenue, Springfield, Missouri.</u> March 21, 2012. 5 pages with attachments
BVNA, 2012b	Bureau Veritas North America, Inc. <u>Transmittal letter and Revised Tier 1 Risk Assessment Report for petroleum Releases at Underground Storage Tank Sites, Sweetheart Cup Company, 1100 North Glenstone Avenue, Springfield, Missouri.</u> March 21, 2012. 5 pages with attachments
CSR, 2010	Missouri Code of State Regulations, <u>Title 10 - Department of Natural Resources, Division 23 – Division of Geology and Land Survey, Chapter 3 – Well Construction Code,</u> July 31, 2010. 49 pages. <a href="http://www.sos.mo.gov/adrules/csr/csr.asp">http://www.sos.mo.gov/adrules/csr/csr.asp</a>
MDNR, 2012a	Missouri Department of Natural Resources, <u>Point Locational Data Collection Sheet: Solo Cup Manufacturing Facility.</u> 2 pages.
MDNR, 2012b	Ndubuka, Chinwe, Environmental Specialist, Hazardous Waste Program, Division of Environmental Quality. Memorandum to Solo Cup Manufacturing Facility File. <u>Subject – Site Visit at Solo Cup Manufacturing Site, Greene County, June 6, 2012.</u> June 14, 2012. 5 pages with attachments.
MDNR, 2012c	Koon, Ken, Chief, Tanks Section, Hazardous Waste Program, Missouri Department of Natural Resources. <u>No Further Action Letter – Non Residential.</u>

	Re: Sweetheart Cup Company, 1100 North Glenstone, Springfield, Greene County, MO. ST0002709, R0008573) – (Easting: 476995.125212, Northing: 4119309.62684). July 19, 2012. 2 pages.
MDNR, 2012d	Missouri Department of Natural Resources, Drinking Water Branch. <u>Drinking Water Watch</u> . <a href="http://dnr.mo.gov/DWW/">http://dnr.mo.gov/DWW/</a> Accessed July 23 and 27, 2012.
MDNR, 2012e	Bachle, Peter, Geologist, Geological Survey Program, Division of Geology and Land Survey. Memorandum to Chinwe Ndubuka, Environmental Specialist, Hazardous Waste Program, Division of Environmental Quality. <u>Subject - Geohydrologic Summary of Solo Cup Manufacturing Facility Site</u> . August 23, 2012. 7 pages with attachments.
News-Leader, 2012	News-Leader (Springfield). <u>Final Hours for Solo Cup Plant</u> . <a href="http://www.news-leader.com/article/20110303/BUSINESS05/103030354/Final-hours-Solo-Cup-plant">http://www.news-leader.com/article/20110303/BUSINESS05/103030354/Final-hours-Solo-Cup-plant</a> March 2, 2011News-Leader.com Accessed July 18, 2012.

## II. PRE-CERCLIS SITE SCREENING FORM

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## I. SITE NAME AND LOCATION

**Name:** Solo Cup Manufacturing Facility

**Alias:** Sweetheart Cup Company, Lily Tulip

**Address or other Location Identifier:** 1100 North Glenstone Avenue

**City:** Springfield

**County:** Greene

**State:** MO

**Zip:** 65802

### Directions to Site:

From Jefferson City, travel southwest on US Highway 54 West for about 57 miles. Just before Camdenton, exit onto Missouri Highway 5 South and travel south for about 24 miles. Turn left onto North Jefferson Avenue and travel for about 1.6 miles before merging onto Interstate 44 West. Travel southwest on Interstate 44 West for about 48 miles into Springfield. Take Exit 80B and turn left (south) onto North Glenstone Avenue and travel for about 2.3 miles. Turn left (east) onto East Pythian Street and travel east for about 500 feet. The site encompasses an area to the left (north), straight ahead and to the right (south) of this location. The gated entrance to the loading area is located to the north.

**Map Attached:** X

## II. SITE REFERRAL INFORMATION

**Referred By:** MDNR Hazardous Waste Program Tanks Section

**Date of Referral:** January 31, 2012

**Reason for Referral (if applicable):** The Tanks Section requested the Superfund Section's investigation of non-petroleum chemicals detected in groundwater at the site.

**Mailing Address:** Missouri Department of Natural Resources, Hazardous Waste Program, Tanks Section, c/o P.O. Box 176

**City:** Jefferson City

**State:** MO

**Zip:** 65102-0176

**Telephone:** (573) 526-0971

**Fax:**

## III. SITE INFORMATION

**Type of Facility:** Manufacturing/warehouse/office  
(Mostly vacant)

**Type of Ownership:** Limited Liability Company

**Owner Name:** Warren Davis Properties, LLC

**Mailing Address:** Mr. Patrick Harrington, Warren Davis Properties, LLC., 1540 West Battlefield Road

**City:** Springfield,

**State:** MO

**Zip:** 65807

**Telephone:** (417) 862-9100

**Fax:** (417) 862-9665

**Operator Name (if different from owner):** Multiple and unknown. Conjoined buildings 5 and 6 on south portion of the property have been leased out to businesses. Conjoined buildings 1, 2, 3 and 4 on the north property are currently vacant, but the property is advertised on the owner's website as office/warehouse/manufacturing.

**Mailing Address:** Multiple and unknown.

**City:**

**State:**

**Zip:**

**Telephone:**

**Fax:**

**Current Site Status:** Mostly vacant

**Years of Operation:** 1951-2011 (cup manufacturing)

### Operational History:

Taken from Phase I Environmental Site Assessment (ESA) by Bureau Veritas north America, Inc. (BVNA, 2010a): Historical research has established the use of the subject property since 1938. Based on historic information reviewed during the Phase I ESA, the subject property consisted of undeveloped and/or agricultural land prior to the mid to late 1930s. The Wagon Wheel Restaurant and Filling Station was located at 1200 North Glenstone Avenue (Northwest

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

portion of the subject property) by 1938 and at least until 1946. The subject property address also was listed as the Glen View Company (real estate) in 1941 and 1946.

The facility has operated as a manufacturing plant since its initial construction in 1951. Building 1 was constructed in 1951, and Buildings 2, 3 and 4 were constructed as additions between 1952 and 1957. Building 5 was constructed in 1957, along with the passageway to Building 4. Building 6 was constructed in 1965. In 1985, passageways were constructed between Buildings 5 and 6 and the building located on the eastern adjoining property.

Operations since 1951 have included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products. Over the history of the facility, approximately 55 above ground and 11 underground storage tanks have been located on the property. Operations included use of solvent-based inks for printing until approximately 1996, and use of 1,1,1-trichloroethane (TCA) as a cleaning solvent associated with welding activities. By the time of the Phase I ESA in 2010, manufacturing at the plant was restricted to Styrofoam Trophy® cups and paper soufflé cups (small pleated paper cups) and the facility used only water-based inks. Trophy® cups were made by first extruding resin pellets into foam and then forming the two piece foam cup in a manner similar to a paper cup. Carbon dioxide and refrigerant R-152a (also referred to as Z2) were used as blowing agents in the foam extrusion process. Trophy® cups were made in different colors and had printing on the finished cup. The printing was either performed on the extruded foam roll prior to assembly or completed in-line during assembly (BVNA, 2010a).

The plant has changed ownership and/or name a number of times over its history. According to the Springfield News-Leader, the plant opened in 1952 as Lily Tulip Cup Corporation with about 1,700 employees. In 1986, Fort Howard Cup Corporation purchased Lily Tulip, but the plant name remained Lily Tulip. In 1988, a group of investors purchased Fort Howard, which was later bought by Sweetheart Cup Company in 1989. Solo Cup acquired the plant in 2004 when it bought SF Holdings, Sweetheart's parent company. The final regular work shift ended in March 2011 (News-Leader, 2012).

### IV. CERCLA APPLICABILITY

[40 CFR 300.410(E)]

#### 1. Is there a release as defined by the NCP?

Yes X No    

##### Explain:

Excluding three volatile organic compounds (VOCs) associated with a petroleum release, seven chlorinated solvent VOCs were detected in the shallow groundwater at the site at concentrations significantly above background. Of these, carbon tetrachloride, chloroform, and trichloroethene (TCE) have been measured at concentrations exceeding Maximum Contaminant Levels (MCLs) and/or Regional Screening Levels (RSLs). It is not known whether these chemicals are a result of operations at the site. The Phase I ESA noted that operations included use of solvent-based inks for printing until approximately 1996, and use of 1,1,1-trichloroethane (TCA) as a cleaning solvent associated with welding activities. 111-TCA was not detected in groundwater samples from the site.

*(A RELEASE Is Defined As Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Or Disposing Into The Environment (Including The Abandonment Of Barrels, Containers, And Other Closed Receptacles Containing Any Hazardous Substances Or Pollutant Or Contaminant), But Excludes: Workplace Exposures; Engine Exhaust Emissions; Nuclear Releases Otherwise Regulated; And The Normal Application Of Fertilizer. For Purposes Of The NCP, Release Also Means Threat Of Release.)*

#### 2. Is the source a facility or vessel as defined by the NCP?

Yes X No    

##### Explain:

Chlorinated solvents have come to be located in shallow groundwater at the site.

*(A FACILITY Is Defined As Any Building, Structure, Installation, Equipment, Pipe Or Pipeline (Including Any Pipe Into A Sewer Or POTW), Well, Pit, Pond, Lagoon, Impoundment, Ditch, Landfill, Storage Container, Motor Vehicle, Rolling Stock, Or Aircraft Or Any Site Or Area, Where A Hazardous Substance Has Been Deposited, Stored, Disposed Of, Or Placed, Or Otherwise Come To Be Located; But Does Not Include Any Consumer Product In Consumer Use Or Any Vessel. A VESSEL Is Defined As Any Description Of Watercraft Or Other Artificial Contrivance Used, Or Capable Of Being Used, As A Means Of Transportation On Water Other Than A Public Vessel.)*



## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**3. Does the release involve either a hazardous substance, pollutant or contaminant as defined by the NCP?**

Yes X No     

**Explain:**

Carbon tetrachloride, chloroform, and TCE are listed hazardous substances and priority pollutants.

*(A HAZARDOUS SUBSTANCE Means Any Substance, Element, Compound, Mixture, Solution, Hazardous Waste, Toxic Pollutant, Hazardous Air Pollutant, Or Imminently Hazardous Chemical Substance Or Mixture Designated Pursuant To The CWA, CERCLA, SDWA, CAA Or TSCA. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas. The Definition Of POLLUTANT Or CONTAMINANT Includes, But Is Not Limited To, Any Element, Substance, Compound, Or Mixture, Including Disease-Causing Agents, Which After Release Into The Environment And Upon Exposure, Ingestion, Inhalation, Or Assimilation Into Any Organism, Either Directly From The Environment Or Indirectly By Ingestion Through Food Chains, Will Or May Reasonably Be Anticipated To Cause Death, Disease, Behavioral Abnormalities, Cancer, Genetic Mutation, Physiological Malfunctions Or Physical Deformations, In Such Organisms Or Their Offspring. The Term Does Not Include Petroleum Products, Natural Gas, Natural Gas Liquids, Liquefied Natural Gas, Synthetic Gas Or Mixtures Of Natural And Synthetic Gas.)*

**4. Is the release subject to the limitations on response?**

Yes      No X

**Explain:**

Chlorinated solvents in the shallow groundwater at the site are the focus of this Site Screening investigation. Petroleum releases at the site have been addressed by Solo Cup Company and approved by the Missouri Department of Natural Resources' Hazardous Waste Program, Tanks Section.

*(The LIMITATIONS ON RESPONSE Provisions Of The NCP (40 CFR 300.400(B) States That Removals Shall Not Be Undertaken In Response To A Release: Of A Naturally Occurring Substance In Its Unaltered Or Natural Form; From Products That Are A Part Of The Structure Of, And Result In Exposure Within, Residential Buildings Or Business Or Community Structures; Or Into Public Or Private Drinking Water Supplies Due To Deterioration Of The System Through Ordinary Use.)*

**5. Is there a potential for other federal or state response mechanisms?**

Yes X No     

**If so, identify the appropriate program:**

     RCRA

     NRC

     FIFRA

     UST

     State VCP

X Other State Deferral

     Other Federal (      )

**Explain:**

The Solo Cup Company, which acquired the plant in 2004 and ended manufacturing operations in 2011, has proactively conducted a number of environmental investigations at the site including the removal of released petroleum product. At the Department's request, Solo Cup Company has agreed to conduct quarterly monitoring and sampling of the shallow monitoring well network and on-site public well for a year. The Department Superfund Section will use the results to assess the stability of VOC contamination at the site prior to confirming whether or not to recommend the site for placement on CERCLIS.

### V. PATHWAY EVALUATION

#### 1. Source and Waste Characteristics

**Source Types and Locations:** Manufacturing facility

**Size of Sources:** The property encompasses an area of about 63 acres.

**Waste Types and Quantities:** Contaminated shallow groundwater; quantities unknown

**Hazardous Substances Present:** Chlorinated solvents (carbon tetrachloride, chloroform, 1,1-dichloroethene, cis-1,2-dichloroethene, dichlorodifluoromethane, TCE, trichlorofluoromethane)

#### 2. Groundwater Use and Characteristics Within 4 Miles

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## General Hydrology:

The soil under the facility is Creldon silt loam, roughly 30 ft thick beneath the site and has a composition which ranges widely with about 15 to 70 % clay. Groundwater flow within overburden is unknown at the site, but likely controlled by extensive karst development within the bedrock (MDNR, 2012e). Geotechnical studies by Solo Cup Company indicated groundwater flow to be to the southeast (BVNA, 2012a). The shallow limestone bedrock is deeply dissolved (karst) and features a highly uneven bedrock surface with cutters and pinnacles along with cave and sinkhole formation. Regional groundwater flow within the Springfield Plateau Aquifer near the site is toward the southeast. Depth to groundwater in the Springfield Aquifer beneath the site is approximately 90 feet deep. The hydraulic conductivity of the Springfield Plateau Aquifer is roughly  $7.8 \times 10^{-3}$  cm/sec. Beneath the Springfield Plateau Aquifer, an approximately 40-foot thick Ozark Confining Unit separates it from the dolomitic Ozark Aquifer. The confining unit forms an effective barrier to the underlying Ozark Aquifer where it are not compromised by faults or open boreholes. The hydraulic conductivity of the Ozark Aquifer ranges from  $1 \times 10^{-4}$  to  $1 \times 10^{-5}$  cm/sec. The groundwater flow direction within this aquifer is not known. The Solo Cup industrial/public well is completed in the Ozark Aquifer (MDNR, 2012e).

**Are Karst Features Present on or Near Site:** Yes. 96 sinkholes and 54 springs within 4 miles of the site. (MDNR, 2012e)

**Depth to Shallowest Groundwater:** Depth to shallow, possibly perched, groundwater varies across the site. This shallow groundwater is not used for drinking. In November 2010, following monitoring well installation, water levels encountered were 10.59 ft. below ground surface (bgs) (MW-03), 8.86 ft bgs (MW-04) and 27.88 ft bgs (MW-08). Depth to groundwater in the Springfield Plateau Aquifer beneath the site is approximately 90 feet deep.

## Groundwater Wells Within 4 Miles: (MDNR, 2012e)

**Private Wells:** 336

**Municipal Wells:** 1

**Community public:** 3

**Non-Community public:** 2

**Industrial/Agricultural Wells:** 34

## Locations and Populations Served (if known):

**Distance to Nearest Drinking Water Well:** Public/Industrial well located on the site (1256 ft deep)

## 3. Surface Water Use and Characteristics

**Is Site in a Flood Plain:** No                      **If Yes,**    \_\_\_ 10 year                      \_\_\_ 100 year                      \_\_\_ 500 year

**Distance to Nearest Surface Water:** 0.2 mile and/or 0.6 mile.

Surface water flows off the site toward the southeast. The southeastern flow travels roughly 0.2 mile before entering Jordan Creek. This is a potential point of entry (PPE) and is located in the NE¼, SW¼ of Section 17, Township 29 North, Range 21 West. From the most proximal PPE, surface water flows approximately 5.6 miles southwest along Jordan Creek before joining Wilsons Creek. From this union, water flows nearly 9.4 miles west before reaching the 15-mile downstream target limit. This limit lies in the SW¼, NW¼ of Section 24, Township 28 North, Range 23 West, Republic 7.5" quadrangle. Surface water also may leave this site and flow approximately 0.6 mile southwest before entering Jordan Creek. This is also a (PPE) located in the SE¼ of Section 18, Township 29 North, Range 21 West (MDNR, 2012e).

(If within 2 miles, fill out surface water pathway)

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

**List Surface Water Bodies Within 15 Downstream Miles:**

Jordan Creek, Wilsons Creek.

**Drinking Water Intakes Within 15 Downstream Miles:** None

**Locations and Populations Served (if known):** Not applicable.

**Fisheries, Sensitive Environments or Wetlands Within 15 Downstream Miles:** None.

**Significant Features (if known or applicable):**

**4. Soil and Air Exposure Characteristics**

**Number of People Living Within 200 Feet of Site:** 0

**Number of Schools or Daycares Within 200 Feet of Site:** 0

**General Population Within 4 Miles (rural, small city, heavy urban area, etc...):** 106,586  
(2010 census block data applied to Geographic Information System software)

**Number of Workers On-Site:** Unknown

**Any terrestrial sensitive environments and/or wetlands present on-site?** Yes ☐ No ☒

**Is site access restricted?** Yes ☒ No ☐

**VI. SUPERFUND SITE SCREENING CRITERIA [40 CFR 300.410(e)]**

**1. Does the quantity or concentration of hazardous substances warrant response?** Yes ☒ No ☐

**Explain:**

Carbon tetrachloride, chloroform, and TCE have been measured in shallow water at concentrations exceeding domestic use/drinking water screening levels. In May 2011, carbon tetrachloride was measured in monitoring well MW-06 at 33.2 ug/L exceeding the EPA RSL of 0.39 ug/L and the MCL of 5 ug/L and the Missouri Risk-Based Corrective Action Risk-Based Target Level (MRBCA RBTL) of 5 ug/L. Chloroform was measured in MW-05 and MW-06 at 5.1 ug/L and 6.5 ug/L respectively. The chloroform results exceed the EPA RSL of 0.19 ug/L but fall below the MCL and MRBCA RBTL of 80 ug/L. TCE has been detected on numerous sampling events in MW-03 and/or MW-04 at concentrations above the EPA RSL of 0.44 ug/L and above the MCL and MRBCA RBTL of 5 ug/L. TCE has increased over time in MW-04 from 11 ug/L in November 2010 to 38.1 ug/L in September 2012.

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

2. Has a PRP been identified?

Yes X No   

**Explain:**

Solo Cup Company has been addressing environmental issues at the site beginning prior to its sale to the current owner. The current property owner is Warren Davis Properties, LLC.

3. Is there an actual or potential threat due to hazardous substances, pollutants or contaminants? *If "Yes", specify for which of the following exposure pathways an actual or potential threat exists:*

Yes X No   

Groundwater  
Surface Water  
Soil Exposure/Air

Yes X No     
Yes    No X  
Yes    No X

**Explain:**

The shallow groundwater at the site is not used for drinking purposes. The public drinking water well on the site has been found to contain bromodichloromethane and chloroform at levels above the EPA RSL but below the MCL, which may be reflective of chlorination and/or impact from the site. There is a potential for future construction workers to be exposed to contaminants in the shallow groundwater. There is not a surface water body on the site. There is not a surface water intake within 15 miles downstream from the site. A portion of the site, including areas where ten monitoring wells have been installed, is capped with asphalt or building slab. Contamination found on the site has been located in the subsurface. None of the VOCs detected in groundwater at the site exceed the MRBCA non-residential indoor inhalation of vapor emissions benchmarks.

4. Are there hazardous substances, pollutants or contaminants in drums, barrels or bulk storage containers?

Yes X No   

**Explain:**

There are above ground storage tanks on the property reportedly used to store No.2 fuel oil and gas, but they are not abandoned or leaking and are not considered the focus of this site screening investigation.

5. Are there high levels of hazardous substances, pollutants or contaminants in surface soils?

Yes    No X

**Explain:**

A portion of the site, including areas where ten monitoring wells have been installed, is capped with asphalt or building slab. Based on the results of the Limited Phase II Environmental Site Assessment, surface soil is not thought to be an exposure pathway of concern.

*("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)*

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

6. Are there conditions on site which may be susceptible to impact from adverse weather conditions?

Yes \_\_\_\_ No X

**Explain:**

Detected contamination is located below the ground surface.

7. Is there a threat of fire or explosion?

Yes X No \_\_\_\_

**Explain:**

There are above ground storage tanks on the property reportedly used to store No.2 fuel oil and gas, but they are not abandoned.

8. Are there other situations or factors which warrant further Superfund response?

Yes \_\_\_\_ No X

**Explain:**

# MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

## VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

### SITE SCREENING FINDINGS

Answer the following questions as support for the site recommendation.

Yes	No	Condition or Factor	Yes	No	Condition or Factor
X		Is there a release or threat of release?		X	Is there a direct soil exposure pathway threat to hazardous substances?
X		Is the source a facility or vessel?		X	Are there high levels of hazardous substances in surface soils?
X		Does the release involve a hazardous substance, pollutant, or contaminant?		X	Is there an air pathway threat from hazardous substances?
	X	Is the site subject to response limitations?	X		Is there a threat of fire or explosion?
X		Does the quantity or concentration of hazardous substances warrant response?	X		Are there drums, barrels, or bulk storage containers present?
X		Are there actual or potential exposure threats to hazardous substances?		X	Is the site susceptible to adverse weather conditions?
X		Is there an actual or a potential threat for contamination of drinking water supplies with hazardous substances?	X		Is there a willing/capable PRP response?
	X	Is there a surface water pathway threat from hazardous substances?			Can the site be referred to another program?

### SITE SCREENING RECOMMENDATIONS

	<b>Superfund CERCLIS Entry Not Warranted No Further Superfund Response Action Required</b>
X	<b>Superfund CERCLIS Entry Warranted Not Recommended For CERCLIS Entry At This Time – Other Response Action Planned</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Additional Integrated Assessment Recommended</b>
	<b>Superfund CERCLIS Entry Warranted Recommended For CERCLIS Entry – Removal Action Recommended</b> <i>(Complete A Removal Evaluation Form)</i> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>___ Emergency</span> <span>___ Time-Critical</span> <span>___ Non-Time-Critical</span> </div>

#### Comments:

There is a release of hazardous substances (carbon tetrachloride, chloroform, TCE, 1,1-DCE, cis-1,2-DCE, dichlorodifluoromethane, trichlorofluoromethane) to shallow groundwater at the site; however, only carbon tetrachloride, chloroform, and TCE concentrations exceed MCLs and/or RSLs. Shallow groundwater in the vicinity of the site is not used for drinking. The 1,256 ft deep public drinking water well on the site has been found to contain bromodichloromethane and chloroform at levels below the MCL, which may be reflective of chlorination and/or impact from the site. The Solo Cup Company, which acquired the plant in 2004 and ended manufacturing operations in 2011, has proactively conducted a number of environmental investigations at the site including the removal of released petroleum product. At the Department's request, Solo Cup Company has agreed to conduct

## MISSOURI SUPERFUND PRE-CERCLIS SITE SCREENING FORM

removal of released petroleum product. At the Department's request, Solo Cup Company has agreed to conduct quarterly monitoring and sampling of the shallow monitoring well network and on-site public well for a year. Following the fourth quarter sampling estimated to occur in August 2013, the Department Superfund Section will use the results to assess the stability of VOC contamination at the site and confirm whether or not to recommend the site for placement on CERCLIS.

### VIII. ADDITIONAL INFORMATION OR COMMENTS

**PREPARED BY:**

NAME: Chinwe Ndubuka

SIGNATURE: Chinwe Ndubuka

DATE: Nov. 26, 2012

**REVIEWED BY:**

NAME: Julieann Warren

SIGNATURE: Julieann Warren

DATE: 11-26-2012

**APPROVED BY:**

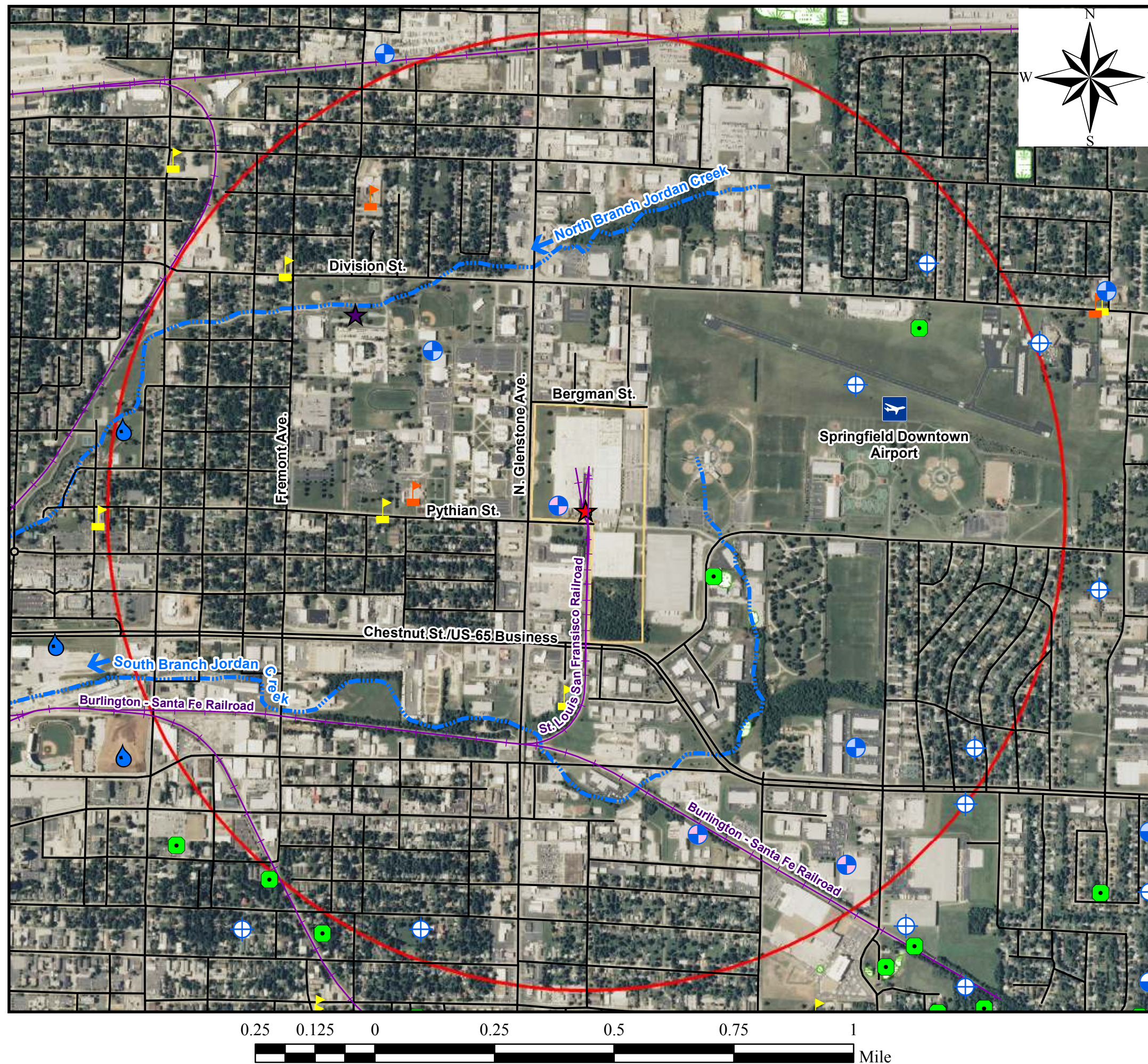
NAME: Dennis Stinson

SIGNATURE: Dennis Stinson

DATE: 11-26-2012

### III. FIGURES

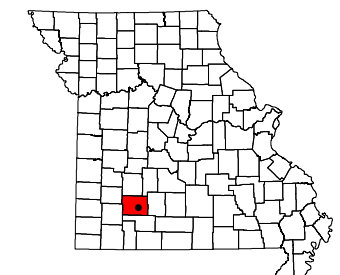




**Figure 1**  
**Site Location Map**  
**Solo Cup Manufacturing Facility Site**  
**1100 North Glenstone Avenue**  
**Springfield, Greene County, MO 65802**

**Legend**

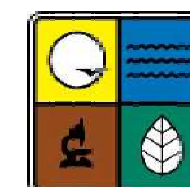
- ★ Solo Cup Center of Operations
- ★ Smith Park
- ⊕ Public Drinking Water Well (none within map)
- ⊕ Industrial High Capacity Well
- ⊕ Noncommunity Public Well
- ⊕ Private Drinking Water Well
- 💧 Spring
- 🟢 Sinkhole
- 🏫 School
- 🏠 Daycare
- Railroad
- Road
- Losing Stream
- 🌿 Wetland
- ▭ Solo Cup Property Boundary
- ▭ 1 Mile Radius from Site



Map created August 6, 2012 by Chinwe Ndubuka.  
 Map modified on November 15, 2012 by Chinwe Ndubuka. This map can be found at:  
 M:\Superfund\SoloCup\Site Location Map.mxd

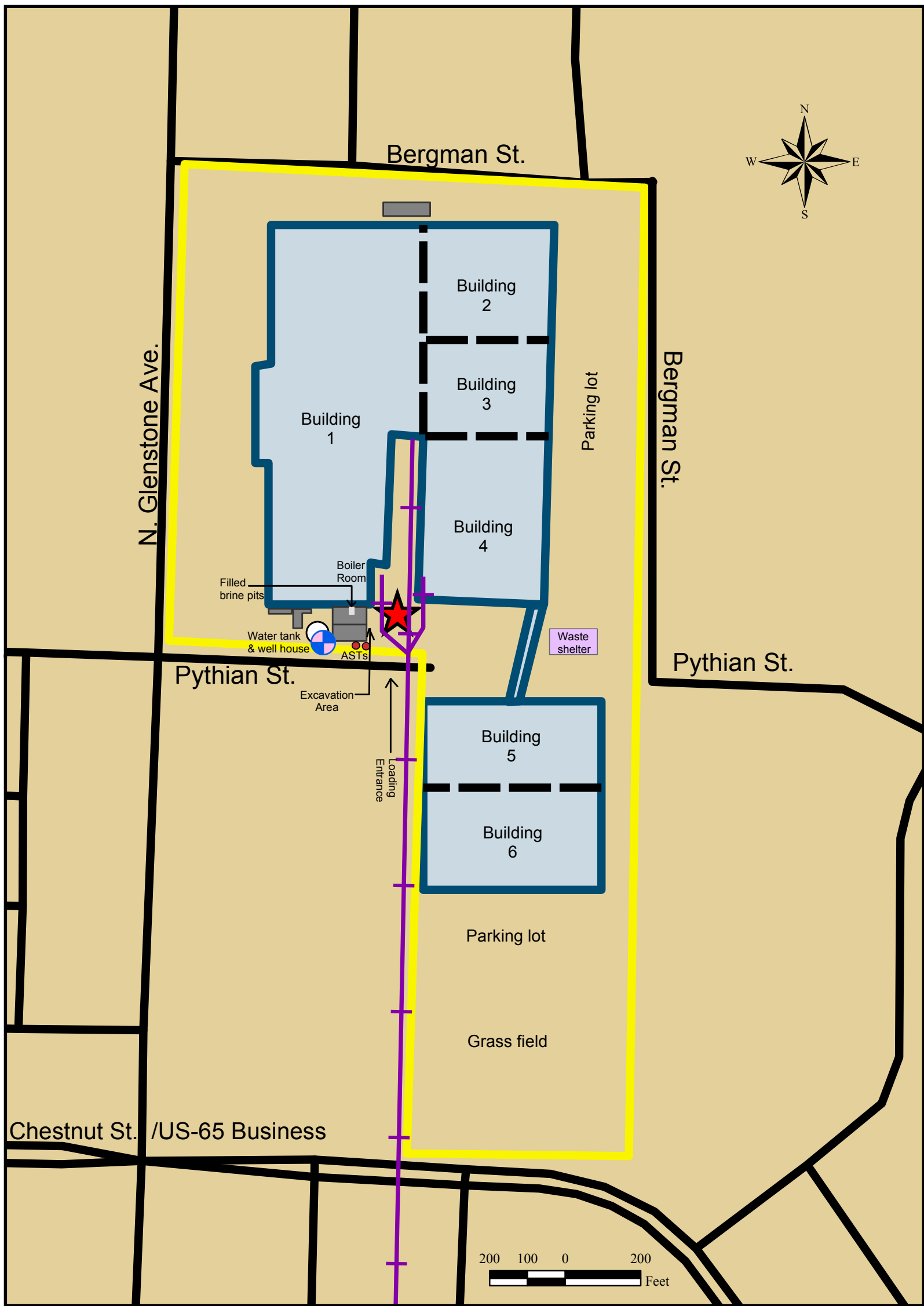
Base Map: National Agricultural Inventory Program 2010.  
 Data Sources: National Wetlands Inventory, US Fish Wildlife Service; Wellhead Protection, MoDNR Public Drinking Water Program; MoDNR Division of Geology and Land Survey Logmain; Sensitive Environments, Mo Department of Conservation.

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

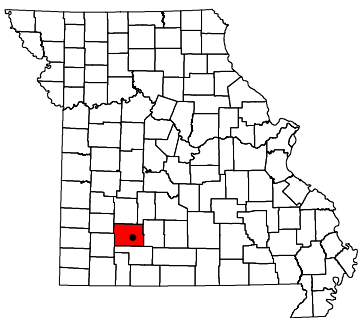


**Missouri Department of**  
**Natural Resources**  
**Division of Environmental Quality**  
**Hazardous Waste Program**





**Figure 2**  
**Site Sketch**  
**Solo Cup Manufacturing Facility Site**  
**1100 North Glenstone Avenue**  
**Springfield, Greene County, MO 65802**



**Legend**

- ★ Center of Operations
- Industrial/Public Drinking Water Well
- +— Railroad
- Road
- Property Boundary
- Facility Building
- Concrete Pad

Site sketch created June 14, 2012 by Chinwe Ndubuka  
 Site sketch modified November 16, 2012 by Chinwe Ndubuka

This map can be found at: M:\Superfund\Solo Cup\Fig2\_Site Sketch.mxd

Base Map: National Agricultural Inventory Program 2010.  
 Site sketch based on base (aerial) map, Bureau Veritas North America, Inc.'s Subject Property Plan, August 2010, and observations made during June 6, 2012 site visit.

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

**Missouri Department of  
 Natural Resources**  
 Division of Environmental Quality  
 Hazardous Waste Program



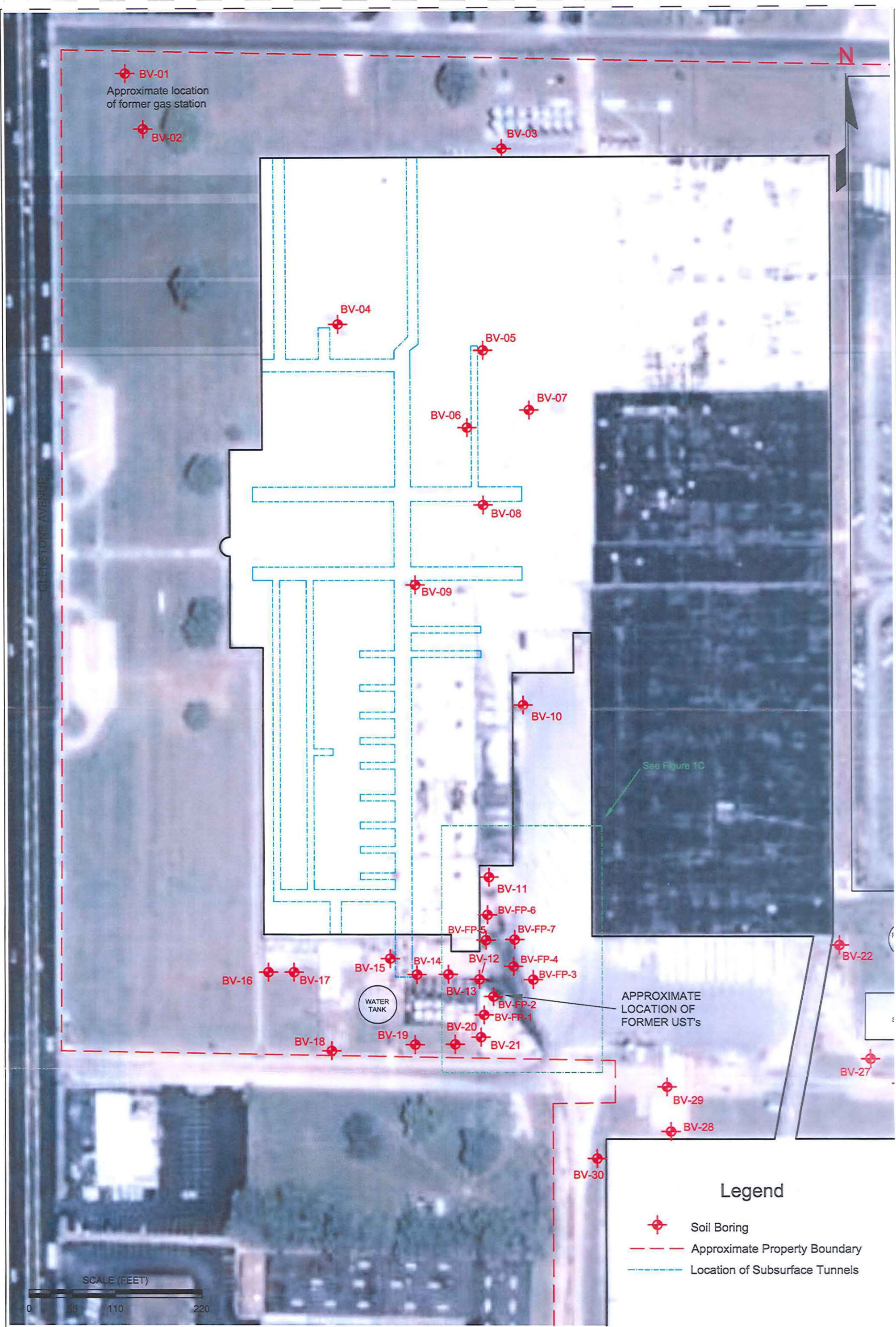


Figure 3A \ Soil Boring Location Map (North)



**Bureau Veritas North America, Inc.**  
Health, Safety, and Environmental Services  
165 South Union Blvd., Suite 510  
Lakewood, Colorado 80228  
703-988-2585 Telephone  
703-988-2585 Fax

**CLIENT**  
Solo Cup Operating Corporation  
1100 North Glenstone Ave.  
Springfield, Missouri

SITE	SOLO CUP FACILITY 1100 N. GLENSTONE AVE SPRINGFIELD, MISSOURI	
	Project No. 10010-010096.02	October 2010

(Figure number modified by Missouri Department of Natural Resources on November 1, 2012 for inclusion in Pre-CERCLIS Site Screening report)



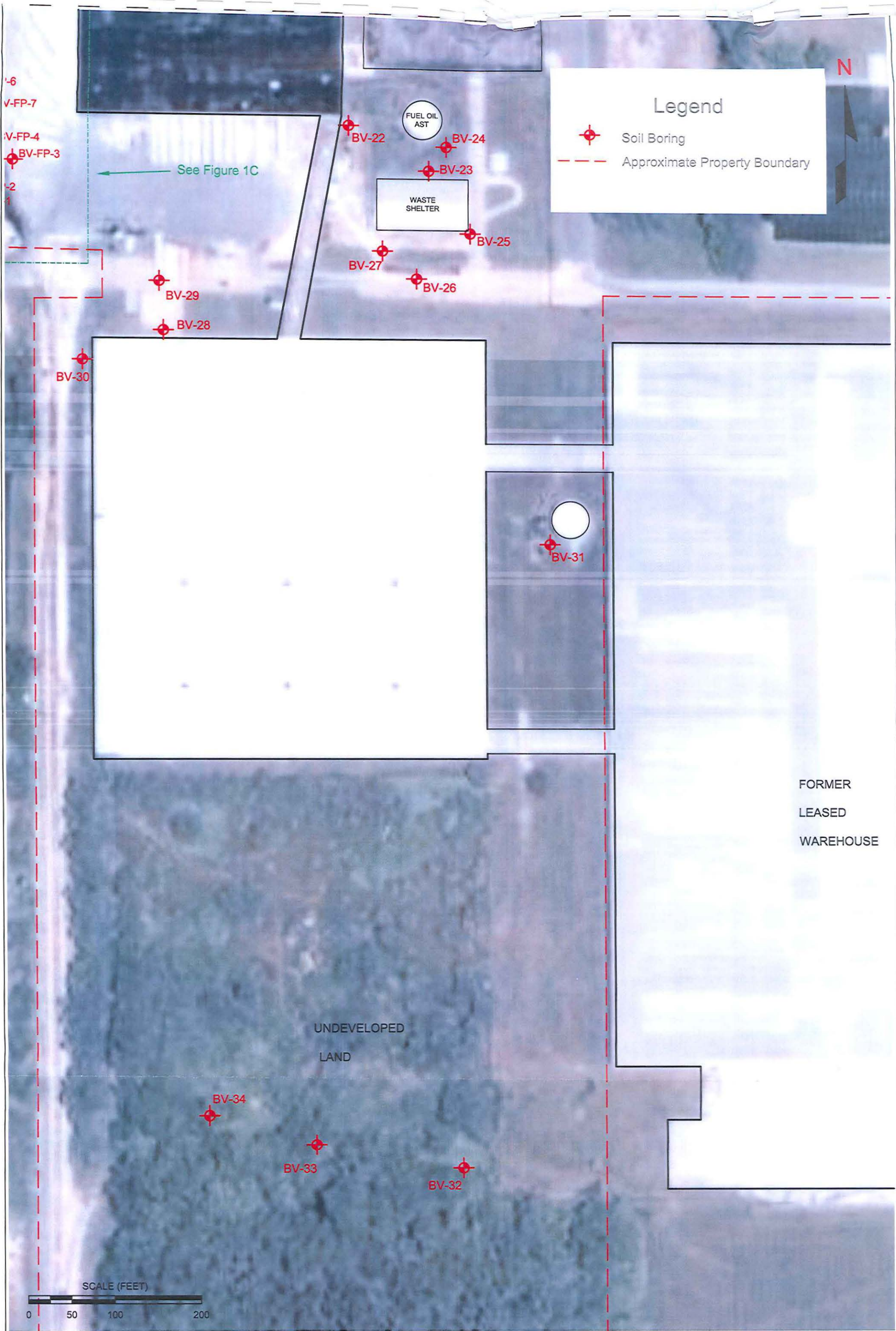
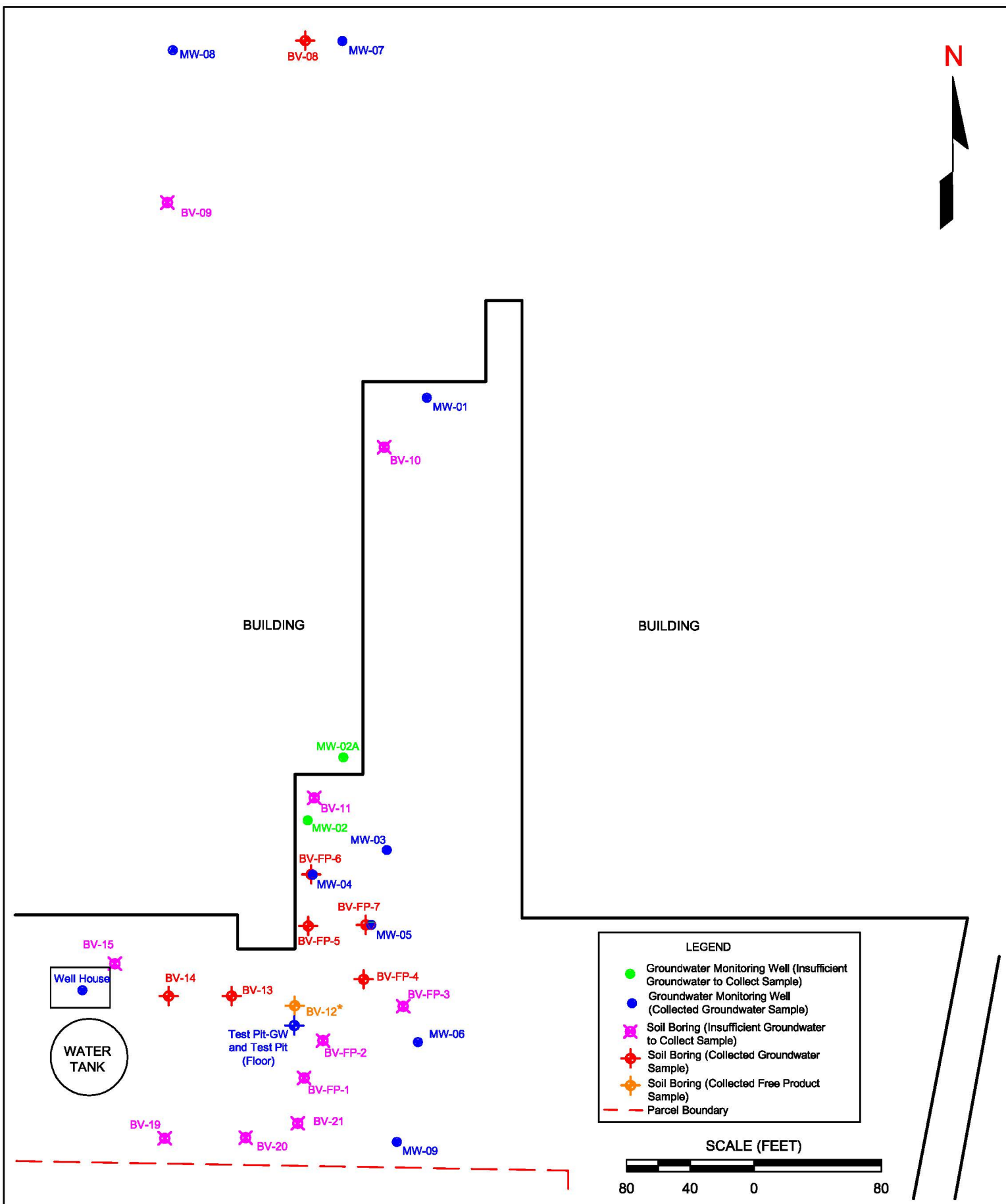


Figure 3B-3 Soil Boring Location Map (South)	 <b>Bureau Veritas North America, Inc.</b> <i>Health, Safety, and Environmental Services</i> 168 South Union Blvd., Suite 710 Lakewood, Colorado 80226 303-988-2585 Telephone 303-988-2585 Fax	<b>CLIENT</b> Solo Cup Operating Corporation 1100 North Glenstone Ave. Springfield, Missouri	<b>SITE</b> <b>SOLO CUP FACILITY</b> 1100 N. GLENSTONE AVE SPRINGFIELD, MISSOURI	Project No. 10010-010096.02	
				October 2010	





<p><b>Figure 4</b></p> <p><b>Site Features Map</b></p>	<p><b>Bureau Veritas North America, Inc.</b>  <i>Health, Safety, and Environmental Services</i>          165 South Union Blvd., Suite 310          Lakewood, Colorado 80228          303-988-2585 Telephone          303-988-2583 Fax</p>	<p><b>CLIENT</b></p> <p>Solo Cup Operating Corporation          1100 North Glenstone Ave.          Springfield, Missouri</p>	<p><b>SITE</b></p> <p><b>SOLO CUP FACILITY</b>          1100 N. GLENSTONE AVE          SPRINGFIELD, MISSOURI</p>
			<p>Project No. 10010-010096.04</p> <p>Last Revision October 2011</p>

(Figure number modified by Missouri Department of Natural Resources on November 1, 2012 for inclusion in Pre-CERCLIS Site Screening report)

## IV. PHOTOGRAPHS



Photograph 1

Solo Cup Manufacturing Facility Site  
Greene County

MO, 65802

Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of vacant concrete pad in aboveground storage tanks (ASTs) area south of Building 1 on property north of East Pythian Street. Two red ASTs on left side of photograph store No. 2. fuel oil. Arrow points to gravel placed after excavation of released petroleum product. In the background from left to right are a well house, water tank and chillers. Photo taken north of south loading entrance facing west.



Photograph 2

Solo Cup Manufacturing Facility Site  
Greene County

MO, 65802

Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

This photo captures a portion of Photograph 1 and south end of Building 1. Strip of paving running across photo indicates tunnel carrying utilities. This also appears to be the area of an old rail spur to Building 1. Photo taken facing west.



Photograph 3

Solo Cup Manufacturing Facility Site  
Greene County

MO, 65802

Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

Close up view of circles left by former ASTs south of Building 1. Note well house located left of water tank. Photo taken facing west.





Photograph 4  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of south wall of Building 1 shown in Photograph 2. Lighter colored pavement next to wall is the location of two below grade concrete brine (water softener) pits, now cleaned out, filled in with gravel and paved over. Note global positioning system (GPS) Trimble device over new pavement. Photo taken facing north.



Photograph 5  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of inactive water softener equipment inside boiler room in south end of Building 1. Photo taken facing south.



Photograph 6  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of monitoring well #5 located east of southeast corner of Building 1.

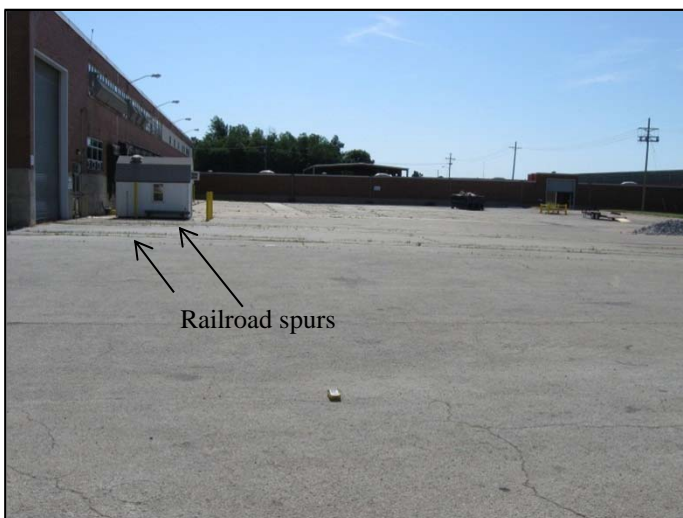




Photograph 7

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of receiving area north of loading entrance. Railroad spur runs (in shadow) along Building 4 on right side of photo. Note yellow GPS Trimble device in foreground recording location. Photo taken facing north.



Photograph 8

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of area south of Building 4. Trimble device is in same location as in Photograph 7. Arrows point to railroad spurs; one runs beside Building 4 to receiving area and the other ends inside Building 4. In the background is enclosed hallway that connects Buildings 4 and 5. Photo taken facing east.



Photograph 9

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of waste shelter located east of Buildings 4 and 5 connector. Photo taken facing west.



Photograph 10

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

Close-up view of water logged sump at southwest corner of waste shelter. Photo taken facing west.



Photograph 11

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of yellow paint marking "1210 SLUDGE" on floor in southwest corner of waste shelter. Photo taken facing south.



Photograph 12

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of former print shop inside Building 1. Photo taken facing west.





Photograph 13  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of former silos area north of Building 1. Photo taken from north fence facing south.



Photograph 14  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of northwest corner of property, the historical location of Wagon Wheel Restaurant and Filling Station. Photo taken from East Bergman Street facing south.



Photograph 15  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of southwest area of property north of East Pythian Street. Pad mounted transformers are located south of Building 1. Arrow points to concrete pad on right side of fence. Photo taken from street facing north.

## V. ANALYTICAL DATA TABLES



Table 1  
PAH, TPH, and PCB Soil Analysis  
Solo Cup Operating Corporation  
1100 N Glenstone Avenue  
Springfield, Missouri  
Bureau Veritas Project No. 10010-010096.02

Sample ID		MO MRBCA Lowest Default Target Levels- Soil (mg/kg)	BV-4 (6-7')	BV-5 (7-8')	BV-6 (6-7')	BV-7 (2-3')	BV-8 (8-10')	BV-9 (8-9')	BV-12 (2-3')	BV-13 (7-8')	BV-14 (15-16')	BV-15 (0.5')	BV-16 (2-3')	BV-17 (2-3')	BV-18 (2-3')	BV-19 (10-11')	BV-20 (5-6')	BV-21 (13-14')	BV-22 (4-5')	BV-23 (4-5')
Date Sampled			9/23/2010	9/23/2010	9/23/2010	9/23/2010	9/23/2010	9/24/2010	9/22/2010	9/22/2010	9/22/2010	9/23/2010	9/22/2010	9/22/2010	9/23/2010	9/23/2010	9/23/2010	9/23/2010	9/21/2010	9/23/2010
PAHs (mg/kg)	Acenaphthene	174	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	ND (0.19)	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Anthracene	3060	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.214	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Benzo(a)anthracene	6.12	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.525	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Benzo(a)pyrene	0.62	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.429	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Benzo(b)fluoranthene	6.19	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.484	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Benzo(k)fluoranthene	62	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	ND (0.19)	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Chrysene	599	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.785	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Dibenzo(a,h)anthracene	0.62	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	ND (0.19)	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Fluoranthene	2280	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.555	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Fluorene	211	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	0.307	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Naphthalene	0.325	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	ND (0.19)	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
	Pyrene	1500	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.20)	ND (19)	1.51	ND (0.24)	ND (10)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.27)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.26)
TPH (mg/kg)	TPH-GRO	385	ND (0.29)	ND (0.23)	ND (0.20)	ND (0.28)	ND (0.23)	ND (0.24)	812	0.21	ND (0.22)	ND (0.25)	ND (0.22)	ND (0.18)	ND (0.25)	ND (0.31)	ND (0.27)	ND (0.30)	ND (0.27)	ND (0.29)
	TPH-DRO	4150	NA	NA	NA	NA	NA	ND (10)	7150	151	ND (12)	1970	ND (11)	ND (10)	ND (12)	ND (13)	ND (12)	ND (13)	ND (12)	ND (13)
	TPH-ORO	124000	NA	NA	NA	NA	NA	ND (10)	3110	165	ND (12)	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)	Aroclor 1016	3.86	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA
	Aroclor 1221	0.0975	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA
	Aroclor 1232	-	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA
	Aroclor 1242	0.0557	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA
	Aroclor 1248	1.08	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA
	Aroclor 1254	1.1	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA
	Aroclor 1260	1.11	ND (0.023)	ND (0.021)	ND (0.021)	ND (0.024)	ND (0.021)	ND (0.020)	NA	NA	NA	NA	ND (0.021)	ND (0.02)	ND (0.024)	NA	NA	NA	NA	NA

exceeds regulatory standards  
 detected but does not exceed standards

mg/kg: Milligrams per kilogram  
ND: Not Detected (Limits in Parentheses)  
NA: Not Analyzed  
PAHs: Polynuclear aromatic hydrocarbons  
TPH: Total petroleum hydrocarbons  
GRO: Gasoline range organics  
DRO: Diesel range organics  
ORO: Oil range organics  
PCBs: Polychlorinated biphenyls



Table 1  
PAH, TPH, and PCB Soil Analysis  
Solo Cup Operating Corporation  
1100 N Glenstone Avenue  
Springfield, Missouri  
Bureau Veritas Project No. 10010-010096.02

Sample ID		MO MRBCA Lowest Default Target Levels- Soil (mg/kg)	BV-24 (4-5')	BV-25 (4-5')	BV-26 (4-5')	BV-27 (4-5')	BV-28 (1-2')	BV-29 (1-2')	BV-30 (7-8')	BV-31 (5-6')	BV-32 (12-13')	BV-33 (10-11')	BV-34 (20-21')	BV-FP-1 (2-3')	BV-FP-2 (3-4')	BV-FP-3 (5-6')	BV-FP-4 (7-8')	BV-FP-6 (7-8')	BV-FP-7 (3-4')
Date Sampled			9/21/2010	9/21/2010	9/21/2010	9/21/2010	9/22/2010	9/23/2010	9/22/2010	9/21/2010	9/22/2010	9/22/2010	9/22/2010	9/24/2010	9/24/2010	9/24/2010	9/24/2010	9/24/2010	9/24/2010
PAHs (mg/kg)	Acenaphthene	174	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Anthracene	3060	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Benzo(a)anthracene	6.12	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Benzo(a)pyrene	0.62	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Benzo(b)fluoranthene	6.19	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Benzo(k)fluoranthene	62	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Chrysene	599	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Dibenzo(a,h)anthracene	0.62	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Fluoranthene	2280	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Fluorene	211	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Naphthalene	0.325	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
	Pyrene	1500	ND (0.20)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.23)	ND (0.25)
TPH (mg/kg)	TPH-GRO	385	ND (0.19)	ND (0.28)	ND (0.28)	ND (0.25)	ND (0.20)	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.21)	ND (0.20)	ND (0.24)	ND (0.18)	ND (0.23)	ND (0.29)	ND (0.24)	ND (0.26)	ND (0.27)
	TPH-DRO	4150	ND (10)	ND (12)	ND (12)	ND (12)	ND (10)	14.0	ND (9.7)	ND (9.8)	ND (9.9)	ND (9.9)	ND (11)	ND (10)	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)
	TPH-ORO	124000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (10)	41.5	ND (12)	ND (12)	ND (12)	ND (12)
PCBs (mg/kg)	Aroclor 1016	3.86	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA
	Aroclor 1221	0.0975	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA
	Aroclor 1232	-	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA
	Aroclor 1242	0.0557	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA
	Aroclor 1248	1.08	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA
	Aroclor 1254	1.1	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA
	Aroclor 1260	1.11	NA	NA	NA	ND (0.024)	ND (0.020)	ND (0.019)	NA	NA	ND (0.02)	ND (0.02)	ND (0.022)	NA	NA	NA	NA	NA	NA


exceeds regulatory standards  
 detected but does not exceed standards

mg/kg: Milligrams per kilogram  
ND: Not Detected (Limits in Parantheses)  
NA: Not Analyzed  
PAHs: Polynuclear aromatic hydrocarbons  
TPH: Total petroleum hydrocarbons  
GRO: Gasoline range organics  
DRO: Diesel range organics  
ORO: Oil range organics  
PCBs: Polychlorinated biphenyls



Table 2  
VOC Soil Analysis  
Solo Cup Operating Corporation  
1100 N Glenstone Avenue  
Springfield, Missouri  
Bureau Veritas Project No. 10010-010096.02

Sample ID		MO MRBCA Lowest Default Target Levels Soil (mg/kg)	BV-4 (6-7')	BV-5 (7-8')	BV-6 (6-7')	BV-7 (2-3')	BV-8 (8-10')	BV-9 (8-9')	BV-12 (2-3')	BV-13 (7-8')	BV-14 (15-16')	BV-15 (0.5')	BV-16 (2-3')	BV-17 (2-3')	BV-18 (2-3')	BV-19 (10-11')	BV-20 (5-6')	BV-21 (13-14')	BV-22 (4-5')	BV-23 (4-5')	BV-24 (4-5')	BV-25 (4-5')
Date Sampled			9/23/2010	9/23/10	9/23/10	9/23/10	9/23/10	9/24/10	9/22/10	9/22/10	9/22/10	9/23/10	9/22/10	9/22/10	9/23/10	9/23/10	9/23/10	9/23/10	9/21/10	9/23/10	9/21/10	9/21/10
VOCs (mg/kg)	Acetone	4.2	ND (0.058)	ND (0.046)	ND (0.039)	ND (0.055)	ND (0.047)	ND (0.049)	0.361	ND (0.041)	ND (0.043)	ND (0.049)	ND (0.045)	ND (0.036)	ND (0.051)	ND (0.061)	ND (0.054)	ND (0.059)	ND (0.054)	ND (0.057)	ND (0.038)	ND (0.057)
	Benzene	0.561	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Bromobenzene	-	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Bromochloromethane	0.305	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Bromodichloromethane	0.472	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Bromoform	1.15	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	n-Butylbenzene	41.6	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	13.100	0.007	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	sec-Butylbenzene	35.2	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	7.770	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	tert-Butylbenzene	34.1	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Chlorobenzene	1.94	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Chloroethane	0.281	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Chloroform	0.766	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	o-Chlorotoluene	3.88	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	p-Chlorotoluene	0.0235	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Carbon Disulfide	6.26	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Carbon Tetrachloride	0.0796	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,1-Dichloroethane	0.18	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,1-Dichloroethylene	0.108	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,1-Dichloropropene	-	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,2-Dibromo-3-chloropropane	0.0011	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,2-Dibromoethane	0.000473	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,2-Dichloroethane	0.0206	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,2-Dichloropropane	0.042	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	1,3-Dichloropropane	-	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	2,2-Dichloropropane	-	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Dibromochloromethane	0.87	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Dichlorodifluoromethane	1.49	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	cis-1,2-Dichloroethylene	0.521	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	cis-1,3-Dichloropropene	-	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	m-Dichlorobenzene	8.39	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	o-Dichlorobenzene	56.1	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	p-Dechlorobenzene	7.02	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	trans-1,2-Dichloroethylene	1.1	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	trans-1,2,3-Dichloropropene	-	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Ethylbenzene	39.9	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	7.850	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	2-Hexanone	0.019	ND (0.0058)	ND (0.046)	ND (0.039)	ND (0.055)	ND (0.047)	ND (0.049)	ND (0.042)	ND (0.041)	ND (0.043)	ND (0.049)	ND (0.045)	ND (0.036)	ND (0.051)	ND (0.061)	ND (0.054)	ND (0.059)	ND (0.054)	ND (0.057)	ND (0.038)	ND (0.057)
	Hexachlorobutadiene	16	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Isopropylbenzene	10.5	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	4.470	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	p-Isopropyltoluene	271	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	6.220	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	4-Methyl-2-pentanone	19.5	ND (0.0058)	ND (0.046)	ND (0.039)	ND (0.055)	ND (0.047)	ND (0.049)	ND (0.042)	ND (0.041)	ND (0.043)	ND (0.049)	ND (0.045)	ND (0.036)	ND (0.051)	ND (0.061)	ND (0.054)	ND (0.059)	ND (0.054)	ND (0.057)	ND (0.038)	ND (0.057)
	Methyl bromide	0.0185	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0.0051)	ND (0.0061)	ND (0.0054)	ND (0.0059)	ND (0.0054)	ND (0.0057)	ND (0.0038)	ND (0.0057)
	Methyl chloride	0.204	ND (0.0058)	ND (0.0046)	ND (0.0039)	ND (0.0055)	ND (0.0047)	ND (0.0049)	ND (0.0042)	ND (0.0041)	ND (0.0043)	ND (0.0049)	ND (0.0045)	ND (0.0036)	ND (0							

 exceeds regulatory standards  
 detected but does not exceed standards

ND: Not Detected (Limits in Parantheses)  
NA: Not Analyzed







TABLE 3: SELECTED ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES COLLECTED 2010-2011 SOLO CUP MANUFACTURING FACILITY SITE, GREENE COUNTY, MISSOURI																															
<div>● All values listed in parts per billion (ug/l) unless otherwise noted.</div> <div>● NL denotes benchmark value not listed in reference source.</div> <div>● NA denotes not analyzed</div> <div>● ND denotes notdetected in analyte group</div> <div>● Sample results in bold are significantly<sup>1</sup> above background concentrations</div> <div>● Sample results in shaded cells exceed the lowest of the SCDM benchmark values</div> <div>● Circled sample results exceed the EPA Regional Screening Level</div>																															
Sample Tag Number	1004548 <sup>1</sup>	T60583-13 <sup>6</sup>	T60548-13 <sup>6</sup>	T60548-1 <sup>6</sup>	T60548-2 <sup>6</sup>	T60583-8 <sup>6</sup>	T60583-9 <sup>6</sup>	T60583-10 <sup>6</sup>	T60357-7 <sup>6</sup>	T63706-1 <sup>7</sup>	T63706-2 <sup>7</sup>	T63706-3 <sup>7</sup>	T75249-1 <sup>8</sup>	T75249-2 <sup>8</sup>	T75249-3 <sup>8</sup>	T75249-4 <sup>8</sup>	T75249-5 <sup>8</sup>	T75249-6 <sup>8</sup>	T75249-7 <sup>8</sup>	T75249-8 <sup>8</sup>	1201231 <sup>9</sup>	1201234 <sup>9</sup>	1201232 <sup>9</sup>	1201233 <sup>9</sup>	SCDM <sup>2</sup>		MRBCA <sup>3</sup> RBTL		EPA RSL <sup>4</sup>	MO WQS <sup>5</sup>	
Sample ID	Smith Park (Background)	BV-07	BV-08	BV-13	BV-14	BV-FP-5	BV-FP-6	BV-FP-7	BV-31	MW-03	MW-04	MW-08	MW-01	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	Trip Blank	MW-03	MW-04	MW-04 Duplicate	MCL	SL	Domestic Water Use for Residential Land Use	Indoor Inhalation of Vapor Emissions for Non-Residential Land Use			
Date Collected	05/10/10	09/24/10	09/23/10	09/22/10	09/22/10	09/24/10	09/24/10	09/24/10	09/21/10	11/14/10	11/14/10	11/14/10	05/04/11	05/04/11	05/04/11	05/04/11	05/04/11	05/04/11	05/04/11	05/04/11	09/19/12	09/19/12	09/19/12	09/19/12							
Laboratory Number																					AB84670	AB84673	AB84671	AB84672							
Boring/Well Depth (ft)	14	9	28.7	8.7	18	20	16	9.3	27.85	12.81	15.91	29.43	11.41	12.81	15.91	8.51	19.77	23.97	29.43	14.91		13.1	16.15		MCL	SL	Domestic Water Use for Residential Land Use	Indoor Inhalation of Vapor Emissions for Non-Residential Land Use			
Depth to Water (ft)/Comments	8.5 ft by 05/11/10	Dry	22.96 [Located within 25 ft west of MW-07]	5.79	6	13.7 (Visible presence of free product)	14.91 [Same location as MW-04]	8.03 [Located about 5 ft west of MW-05]	13.62	10.59	8.86	27.88	Not recorded during sample collection. (Dry when installed 11/10/2010)	Not recorded during sample collection. (10.59 when installed 11/12/2010)	Not recorded during sample collection. (8.86 when installed 11/11/2010)	Not recorded during sample collection. (Dry when installed 11/11/2010)	Not recorded during sample collection. (Dry when installed 11/11/2010)	Not recorded during sample collection. (Dry when installed 11/12/2010)	Not recorded during sample collection. (27.88 when installed 11/12/2010)	Not recorded during sample collection. (Dry when installed 11/13/2010)	Not Applicable	8.31 (pH 3.76; Spec. Cond. 122 uS/cm; Temp. 23.5 C.	8.13 (pH 3.41; Spec. Cond. 389 uS/cm; Temp. 22.1 C.								
Volatile Organic Compounds (VOCs)																															
sec-Butylbenzene	<0.5	<2	<2	<2	<2	2.2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<5	<5	NL	NL	106	1,090	0.39	NL	
Carbon tetrachloride	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	33.2	<2	<2	<2	<0.5	<0.5	<5	<5	5	0.66	5	1,090	0.39	5	
Chloroform	<0.5	<2	<2	<2	<2	<2	<2	11.1	18.2	<2	<2	<2	<2	<2	<2	5.1	6.8	<2	<2	<2	<0.5	<0.5	<5	<5	80	360	80	4,270	0.19	100	
1,1-Dichloroethene	<0.5	<2	4.0	<2	<2	<2	<2	<2	<2	<2	<2	3.5	<2	<2	<2	<2	<2	<2	3.3	<2	<0.5	<0.5	<5	<5	7	1,800	7	118,000	260	7	
cis-1,2-Dichloroethene	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2.2	<2	<2	<2	<2	<2	<0.5	<0.5	<5	<5	70	360	70	156,000	28	70	
Dichlorodifluoromethane	<0.5	3.1	8.3	<2	<2	<2	<2	<2	<2	<2	<2	14.6	<2	<2	<2	<2	<2	<2	9.8	<2	<0.5	<0.5	<5	<5	NL	NL	220	34,800	190	NL	
Isopropylbenzene (Cumene)	<0.5	<2	<2	<2	<2	4.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<5	<5	NL	3,700	330	23,600	0.44	NL	
n-Propylbenzene (Isocumene)	<0.5	<2	<2	<2	<2	5.8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<5	<5	NL	NL	115	23,600	0.44	NL	
Trichloroethene (TCE)	<0.5	<2	<2	<2	<2	<2	7.1	<2	<2	9	11	<2	<2	<2	21.5	<2	<2	<2	<2	<2	<0.5	<0.5	38.1 (i)	32.9 (i)	5	7.7	5	23,600	0.44	5	
Trichlorofluoromethane	<2.5	6.0	39.2	<2	<2	<2	<2	<2	<2	<2	<2	44.5	<2	<2	<2	<2	<2	5.1	49	<2	<2.5	<2.5	<25	<25	NL	11,000	698	116,000	1,100	NL	
Polycyclic Aromatic Hydrocarbons (PAHs)																															
Benzo(a)anthracene	NA	NA	<6.7	<5.3	<5.6	46.7	<5.2	<5.6	<6.3	<5	<5	<6.1	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NL	0.12	0.103	979,000	0.029	0.0044	
Benzo(a)pyrene	NA	NA	<6.7	<5.3	<5.6	46.5	<5.2	<5.6	<6.3	<5	<5	<6.1	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	0.2	0.012	0.2	154,000	0.0029	0.2	
Chrysene	NA	NA	<6.7	<5.3	<5.6	73.8	<5.2	<5.6	<6.3	<5	<5	<6.1	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NL	12	10.3	1,330,000	2.9	0.0044	
Pyrene	NA	NA	<6.7	<5.3	<5.6	83.6	<5.2	<5.6	<6.3	<5	<5	<6.1	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NL	1,100	96.1	817,000,000	87	960	
Petroleum Hydrocarbons																															
THP-GRO	NA	<200	<200	<200	<200	257	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	NA	NA	NA	NA	NL	NL	18,100	454,000	NL	NL	
TPH-DRO	NA	NA	NA	466	1,950	18,800	<260	<280	<310	<250	<250	<300	NA	NA	NA	NA	<250	NA	NA	NA	NA	NA	NA	NA	NL	NL	34,300	2,830,000	NL	NL	
TPH-ORO	NA	NA	NA	<260	369	17,100	<260	<280	NA	<250	<250	<300	NA	NA	NA	NA	<250	NA	NA	NA	NA	NA	NA	NA	NL	NL	31,800	NL	NL	NL	
Polychlorinated Biphenyls (PCBs)	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							

<sup>1</sup> Three times the background concentration when contaminant is detected in background sample or three times the method detection limit (MDL) when the background concentration is < MDL.

Source of background data: Phase II Integrated Site Inspection/Removal Site Evaluation Background Sampling Report Smith Park Site, Springfield, Missouri, May 10, 2010. Prepared by MDNR Environmental Services Program.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

<sup>3</sup> MRBCA RBTL - Missouri Risk-Based Corrective Action Risk-Based Target Level for Soil Type 3 (clayey), June 2006.

<sup>4</sup> EPA RSL - EPA Regional Screening Levels, May 2012, tap water

<sup>5</sup> MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

<sup>6</sup> Source: Limited Phase II Environmental Site Assessment, Solo Cup Operating Corporation Facility. Prepared by Bureau Veritas North America, Inc. October 20, 2010.

<sup>7</sup> Source: Monitoring Well Installation and Groundwater Sampling Report, Solo Cup Operating Corporation Facility. Prepared by Bureau Veritas North America, Inc. January 20, 2011.

<sup>8</sup> Source: Revised Tier 1 Risk Assessment Report for Petroleum Releases at Underground Storage Tank Sites, Sweetheart Cup Company. Prepared by Bureau Veritas North America, Inc. March 21, 2012.

<sup>9</sup> Source: Superfund Sampling Report. Solo Cup Manufacturing. Prepared by Missouri Department of Natural Resources, Environmental Services Program, Investigation Date: 8/31 & 9/19, 2012.

(i) Sample was diluted during analysis.

TABLE 4: SELECTED ANALYTICAL RESULTS FOR PUBLIC WELL GROUNDWATER SAMPLES COLLECTED 1995-2010														
SOLO CUP MANUFACTURING FACILITY SITE, GREENE COUNTY, MISSOURI														
● All values listed in parts per billion (ug/l) unless otherwise noted. ● Circled sample results exceed the EPA Regional Screening Level														
● NL denotes benchmark value not listed in reference source.														
● NA denotes not analyzed														
Well ID/Water Ssystem Number	Water System Number: MO5182222 (SOLO CUP CO)							MO5180648 <sup>1</sup>	MO5069088 <sup>1</sup>	SCDM <sup>2</sup>		MRBCA <sup>3</sup> RRTI	EPA RSL <sup>4</sup>	MO WQS <sup>5</sup>
Description	Type: Non-Transient Non-Community Public Well (Industrial). Depth: 1,256 ft.							Depth: 1,600 ft. Located ~1.9 miles SSE of site.	Depth: 1,600 ft. Located ~1.9 miles WNW of site.	MCL	SL			
Date Collected	09/15/95	11/24/98	11/19/01	11/29/04	11/06/07	11/02/10	11/19/10	11/01/10	10/26/10					
Laboratory Number	95-G232 <sup>6</sup>	98-Z323 <sup>6</sup> 98-Z241	0143671 <sup>6</sup>	0451953 <sup>6</sup> 0451426	071021559-01 <sup>6</sup> 071021278-01	AB37561 <sup>6</sup> AB37092	T64024-1 <sup>7</sup>	AB37544 <sup>6</sup> AB37081	AB35699 <sup>6</sup> AB35346					
Water Quality Indicators														
Tubidity, NTU	NA	NA	NA	<1.0	<1.0	<1.0	NA	<1	<1	NL	NL	NL	NL	NL
Hardness, as CaCO3	NA	NA	NA	161,000	152,000	154,000	NA	161,000	148,000	NL	NL	NL	NL	NL
pH	NA	6.81	NA	7.91	7.81	7.7	NA	7.75	7.94	NL	NL	NL	NL	NL
Metals														
Arsenic	NA	<1.0	NA	<1.0	<1.0	<1.0	NA	<1	<1	10	0.057	10	0.045	50
Barium	NA	76.2	NA	78.4	65.5	73.4	NA	31.4	69.1	2,000	2,600	2,000	2,900	2000
Cadmium	NA	<1.0	NA	<1.0	<1.0	<0.2	NA	<0.2	<0.2	5	18	5	6.9	5
Chromium	NA	2.13	NA	<2.5	<2.5	1.74	NA	1.82	<1	100	110	100	NL	100
Copper	NA	14	NA	<10	<10	1.88	NA	31.9	<1	1,300	NL	624	620	1,300
Iron	NA	NA	NA	39.4	<5.0	1.37	NA	12.5	144	NL	NL	312	11,000	300
Lead	NA	<4.0	NA	2.76	<10	3.87	NA	<1	1.07	15	NL	15	NL	15
Mercury	NA	<0.2	NA	<0.2	<0.2	<0.2	NA	<0.2	<0.2	2	11	NL	0.63	2
Nickel	NA	8.36	NA	<10	<10	<1.0	NA	<1	<1	NL	730	313	300	100
Selenium	NA	<2.0	NA	<5.0	<5.0	<5.0	NA	<5	<5	50	180	50	78	50
Silver	NA	<5.0	NA	<5.0	<5.0	<1.0	NA	<1	<1	NL	180	78.1	71	50
Zinc	NA	28.6	NA	<10	<10	8.5	NA	14.1	44.2	NL	11,000	4,690	4,700	5,000
Volatile Organic Compounds (VOCs)														
Bromodichloromethane	<0.5	0.6	<0.5	<0.5	<0.5	0.58	<2	<0.5	<0.5	80	1.4	80	0.12	100
Carbon tetrachloride	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	5	0.66	5	0.39	5
Chloroform	<0.5	0.6	<0.5	<0.5	0.72	1.33	<2	<0.5	<0.5	80	360	80	0.19	100
1,1-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	7	1,800	7	260	7
cis-1,2-Dichloroethene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	70	360	70	28	70
Dichlorodifluoromethane	<2.5	<200	<2.5	<1.0	<1.0	<1.0	<2	<1	<1	NL	NL	220	190	NL
Trichloroethene (TCE)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	5	7.7	5	0.44	5
Trichlorofluoromethane	<2.5	<2.5	<2.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	NL	11,000	698	1,100	NL
Petroleum Hydrocarbons														
THP-GRO	NA	NA	NA	NA	NA	NA	<200	NA	NA	NL	NL	18,100	NL	NL
TPH-DRO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NL	NL	34,300	NL	NL
TPH-ORO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NL	NL	31,800	NL	NL

<sup>1</sup> Nearest active industrial/public wells included for comparison with Solo Cup on-site industrial/public well.

<sup>2</sup> SCDM - Superfund Chemical Data Matrix January 2004, Maximum Contaminant Level (MCL) for drinking water, and lowest of reference dose and cancer risk screening levels (SL) for groundwater/surface water pathway drinking water.

<sup>3</sup> MRBCA RBTL - Missouri Risk-Based Corrective Action Risk-Based Target Level for domestic water use, June 2006.

<sup>4</sup> EPA RSL - EPA Regional Screening Levels, May 2012, tap water

<sup>5</sup> MO WQS - Missouri Water Quality Standards, groundwater/drinking water use catagories, Missouri Code of State Regulations, 10 CSR 20-7.031, October 31, 1999.

<sup>6</sup> Source: Missouri Department of Natural Resources, Drinking Water Watch webpage: <http://dnr.mo.gov/DWW/> Accessed July 2012.

<sup>7</sup> Source: Monitoring Well Installation and Groundwater Sampling Report, Solo Cup Operating Corporation Facility. Prepared by Bureau Veritas North America, Inc. January 20, 2011.

## VI. SAMPLING AND ANALYTICAL DOCUMENTATION

# Superfund Sampling Report

## Solo Cup Manufacturing Springfield, MO (Greene County) CAS Order # 120920005

ESP LDPR Code: FEPA8  
Job Code: NJ12SCMF

ESP Staff: Ken Hannon  
Investigation Date: 8/31 & 9/19, 2012

---

### Introduction:

On August 6, 2012, the Site Assessment Unit of the Superfund Section of the Hazardous Waste Program (HWP) requested the Environmental Services Program (ESP) Field Services Unit (FSU) collect groundwater samples for volatile organic compounds at the former Solo Cup Manufacturing Facility Site in Springfield, Missouri. On August 31, 2012, Environmental Specialist Ken Hannon traveled to the site and performed the requisite sampling activities using diffusion bag sampling technology supplied by ESP. The former Solo Cup Manufacturing facility is located at 1100 North Glenstone Avenue in Springfield, Missouri.

Six wells were targeted for the sampling investigation. Two wells labeled MW-7 and MW-8 are located inside a large primary manufacturing building on the western half of the property and the remaining four wells are located in the parking lot just east and southeast of the primary manufacturing building. These wells were labeled: MW-3, MW-4, MW-5, and MW-6.

### Field Methods:

A brief safety meeting was held prior to any sampling activities taking place. Contaminants of concern at this event were volatile organics. Weather conditions on sample deployment day, August 31, 2012, were rainy (remnants of Hurricane Isaac) with winds from the southwest at 15+ mph and temperatures around 73°F. Weather conditions on September 19, 2012, when diffusion bag samplers (dbs) retrieval was conducted, were sunny with light southwesterly winds and temperatures around 75°F.

#### *Calibration and Documentation:*

On the day of sampling, ESP's instruments for measuring field pH, specific conductivity, and temperature were checked for calibration by ESP staff according to the manufacturer's specifications. See Appendix A: Field Notes for calibration data and the description of the field measurements taken by ESP staff.

*Sampling Equipment and Sample Collection:*

ESP was asked to obtain groundwater for the aforementioned monitoring wells located on the site. ESP personnel accessed each well to obtain downwell information (depth to water and total well depth) for each well prior to sampling. Upon obtaining downwell data it was discovered that four of the wells were dry. These were wells: MW-5, MW-6, MW-7, and MW-8. Wells MW-3 and MW-4 contained sufficient water levels to be sampled via the diffusion bag method described below.

Pre-constructed dbs containing analyte free water were obtained from Columbia Analytical Services, Rochester, New York. One dbs was placed down well MW-3 and one down well MW-4 on August 31, 2012, and retrieved after being allowed to equilibrate with groundwater conditions found at each well location. Dbs retrieval and sample collection was performed on September 19, 2012, after a minimum 14-day equilibrium period suggested by manufacturer's specifications. Deployment of the dbs was performed by attaching a weight (minimum one pound) to the bottom of the dbs with a zip lock tie and tying a nylon string to the top of the dbs. The dbs was then lowered to the bottom of the well and the string was tied to the well cap for later retrieval.

On September 19, 2012, the dbs were retrieved from the well by the string and the tops of each dbs were removed with scissors. Sample containers were filled from the top of the dbs and excess water was then poured into a cup for sample parameters to be taken for each well sample. See Table 1 and Appendix B: Chain of Custody/Analytical Results for sample and well data information.

At the time of sample collection, dry wells were checked a second time to ensure that no water had infiltrated the dry wells during the 19 day period between dbs deployment and retrieval. Wells MW-5, MW-6, MW-7, and MW-8 remained dry. After MW-5 and MW-6 were found to be dry, MW-7 and MW-8 were not checked for water.

*Table 1: Field Data*

Monitoring Well and Sample Collection Data for Sampling on September 19, 2012					
Well Identification	Total depth (feet) from TOC	Depth to water (feet) from TOC	Description	Sample ID Number	Collection Time
Trip Blank	NA	NA	Clear, colorless and odorless liquid	1201231	1140
Duplicate from MW-4	NA	NA	Clear, colorless and odorless liquid	1201233	1155
MW-3	13.10	8.31 (8.22)	Clear, colorless and odorless liquid	1201234	1220
MW-4	16.15	8.13 (13.55)	Clear, colorless and odorless liquid	1201232	1155
MW-5	7.80	Dry	NA	NA	NA
MW-6	20.10	Dry	NA	NA	NA
MW-7	(24.23)	Dry	NA	NA	NA
MW-8	(28.28)	Dry	NA	NA	NA

\*(Data collected on August 31, 2012 in parentheses)

Submitted by:

Kenneth Hannon

Kenneth Hannon  
Environmental Specialist  
Field Services Unit  
Environmental Services Program

Approved by:

**Eric  
Sappington**

Digitally signed by Eric Sappington  
DN: cn=Eric Sappington, o=Missouri  
Department of Natural Resources,  
ou=ESP-EER,  
email=eric.sappington@dnr.mo.gov,  
c=US  
Date: 2012.10.16 12:39:22 -05'00'

Eric J. Sappington  
Unit Chief  
Field Services Unit  
Environmental Services Program

ES:kht

c: Chinwe Ndubuka, HWP

Appendix A:  
Field Notes  
Solo Cup Manufacturing  
Springfield (Greene Co.)



Solo Cup

FEPAB/NJ 02 SCMF

Date: 8/31/12

Arrival Time: 10:34

Depart Time: 12:00

Participants: Chinnor Ndubuku  
Adam Kueker

Conditions: Rain ~ 77°F  
Winds SW ~ 28<sup>15</sup> mph

- Recharge Rate = 3 hours. (Well #3)  
- 6/4 dry last time

Well MW-7

Total DTW = 24.23

DTW = \_\_\_\_\_ Dry

MW-8 T 28.70DTW 28.28  
42

Dry

MW-4

Total = 16.15

DTW = 13.55

2.60

Deployed DBS

MW-3 | Total = 13.10

DTW = 8.22

4.88

Deployed DBS

MW-5 | Total = 7.80

DTW = \_\_\_\_\_ Dry

MW-6 | Total = 20.10

DTW = \_\_\_\_\_ Dry

Day 2 - 9/19/12 @ 11:13 hrs. Winds = SW @ 15 mph  
Depart @ 12:40

MW-6 - still dry MW-5 - still dry

Trip Blank # 1201231 @ 1140 hrs

MW-4 - ID # 1201232 / 1201233 Dup.

Time: 1155

pH = 3.41 Cond = 389  $\mu$ S

DTW = 8.13 ft Temp = 22.1

MW-3 ID # 1201234

Time: 1220

DTW = 8.31

pH = 3.76

Temp = 23.5

Cond = 122  $\mu$ S

Calibration: pH 7.0 Act pH 4.0 Cond = 1413  
per 16D293 7.04 Read 4.13 1420

(OK)

Appendix B:  
Chain of Custody/Analytical Results  
Solo Cup Manufacturing  
Springfield (Greene Co.)



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Tape sealed and initialed \_\_\_\_\_  
Shipped \_\_\_\_\_  
☒ Hand Delivered \_\_\_\_\_

Description of Delivery  
Total No. Of Containers: \_\_\_\_\_  
Carrier: \_\_\_\_\_  
By: \_\_\_\_\_

Collector's Name: Kenneth Hannon

(Please Print)

Affiliation: KCRO NERO SERO SIRO SWRO WPP DGLS HWP ESP MoDOT

(circle one) MDC DHSS Other:

LAB USE ONLY

Laboratory ID:

Location:

Sample Number	Sample Collected	Analyses Requested	Disinfect. Type	Field Parameters (include units)	Matrix (circle one)	Container Type	Preservative Type	Number of Containers
1201231 (Sample A)	Date: 9/19/2012	VOAs	(circle one) None Cl <sub>2</sub> UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	<u>Water</u> Soil Organic Sludge Other:	40mL AG	HCl	2
For Lab Use Only AB84670	Time: 1140							
1201232 (Sample B)	Date: 9/19/2012	VOAs	None Cl <sub>2</sub> UV Ozone Other:	D.O. Flow pH 3.41 Cond. 389 $\mu$ S Temp. 22.1 $^{\circ}$ C Other:	<u>Water</u> Soil Organic Sludge Other:	40mL AG	HCl	2
For Lab Use Only AB84671 AB84671	Time: 1155							
1201233 (Sample C)	Date: 9/19/2012	VOAs	None Cl <sub>2</sub> UV Ozone Other:	D.O. Flow pH Cond. Temp. Other:	<u>Water</u> Soil Organic Sludge Other:	40mL AG	HCl	2
For Lab Use Only AB84672	Time:							
1201234 (Sample D)	Date: 9/19/2012	VOAs	None Cl <sub>2</sub> UV Ozone Other:	D.O. Flow pH 3.76 Cond. 122 $\mu$ S Temp. 23.5 $^{\circ}$ C Other:	<u>Water</u> Soil Organic Sludge Other:	40mL AG	HCl	2
For Lab Use Only AB84673	Time: 1220							

Relinquished By: Kenneth Hannon

Received By: [Signature]

Date: 9-20-12 Time: 09:07

Relinquished By:

Received By:

Date: Time:

Relinquished By:

Received By:

Date: Time:



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



<b>Sample A</b>		<b>LDPR:</b>	FEPAS	<b>Job Code:</b>	NJ12SCMF	<b>Sample Reference ID:</b>			
<b>Facility ID:</b>		<b>Site/Study Name:</b>		<b>County:</b>		<b>Sample Event Type: (circle one)</b>		<b>Sample Type: (circle one)</b>	
		Solo Cup Manufacturing		Greene		Bypass/SSO		Air      Soil	
<b>Sample Comment (where and how the sample was collected):</b>						<b>Complaint</b>		<b>Container</b> <b>Spill</b>	
Trip Blank						Emergency Response		<b>Discharge</b> <b>Storm Water</b>	
						<b>Inspection</b>		<b>Groundwater</b> <b>Surface Water</b>	
						<b>Investigation</b>		<b>Organic</b> <b>Wipes</b>	
<b>GPS Coordinates</b>		<b>X Easting</b>		<b>Y Northing</b>		<b>Accuracy</b>		<b>Monitoring</b>	
(UTM Zone 15 NAD83 Only)						(circle one) <b>EPE (meters)</b>		<b>Sediment</b>	
						<b>PDOP</b>		<b>Sludge</b>	
								<b>Drinking Water Supply</b>	

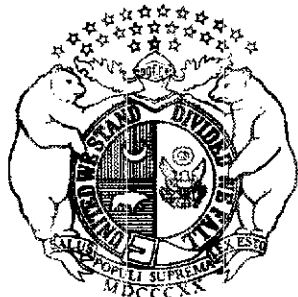
<b>Sample B</b>		<b>LDPR:</b>	FEPAS	<b>Job Code:</b>	NJ12SCMF	<b>Sample Reference ID:</b>			
<b>Facility ID:</b>		<b>Site/Study Name:</b>		<b>County:</b>		<b>Sample Event Type: (circle one)</b>		<b>Sample Type: (circle one)</b>	
		Solo Cup Manufacturing		Greene		Bypass/SSO		Air      Soil	
<b>Sample Comment (where and how the sample was collected):</b>						<b>Complaint</b>		<b>Container</b> <b>Spill</b>	
Water grab sample collected from well MW-4.						Emergency Response		<b>Discharge</b> <b>Storm Water</b>	
						<b>Inspection</b>		<b>Groundwater</b> <b>Surface Water</b>	
						<b>Investigation</b>		<b>Organic</b> <b>Wipes</b>	
<b>GPS Coordinates</b>		<b>X Easting</b>		<b>Y Northing</b>		<b>Accuracy</b>		<b>Monitoring</b>	
(UTM Zone 15 NAD83 Only)						(circle one) <b>EPE (meters)</b>		<b>Sediment</b>	
						<b>PDOP</b>		<b>Sludge</b>	
								<b>Drinking Water Supply</b>	

<b>Sample C</b>		<b>LDPR:</b>	FEPAS	<b>Job Code:</b>	NJ12SCMF	<b>Sample Reference ID:</b>			
<b>Facility ID:</b>		<b>Site/Study Name:</b>		<b>County:</b>		<b>Sample Event Type: (circle one)</b>		<b>Sample Type: (circle one)</b>	
		Solo Cup Manufacturing		Greene		Bypass/SSO		Air      Soil	
<b>Sample Comment (where and how the sample was collected):</b>						<b>Complaint</b>		<b>Container</b> <b>Spill</b>	
Blind Duplicate.						Emergency Response		<b>Discharge</b> <b>Storm Water</b>	
						<b>Inspection</b>		<b>Groundwater</b> <b>Surface Water</b>	
						<b>Investigation</b>		<b>Organic</b> <b>Wipes</b>	
<b>GPS Coordinates</b>		<b>X Easting</b>		<b>Y Northing</b>		<b>Accuracy</b>		<b>Monitoring</b>	
(UTM Zone 15 NAD83 Only)						(circle one) <b>EPE (meters)</b>		<b>Sediment</b>	
						<b>PDOP</b>		<b>Sludge</b>	
								<b>Drinking Water Supply</b>	

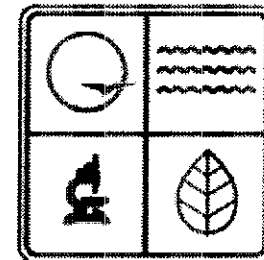
<b>Sample D</b>		<b>LDPR:</b>	FEPAS	<b>Job Code:</b>	NJ12SCMF	<b>Sample Reference ID:</b>			
<b>Facility ID:</b>		<b>Site/Study Name:</b>		<b>County:</b>		<b>Sample Event Type: (circle one)</b>		<b>Sample Type: (circle one)</b>	
		Solo Cup Manufacturing		Greene		Bypass/SSO		Air      Soil	
<b>Sample Comment (where and how the sample was collected):</b>						<b>Complaint</b>		<b>Container</b> <b>Spill</b>	
Water grab sample collected from well MW-3.						Emergency Response		<b>Discharge</b> <b>Storm Water</b>	
						<b>Inspection</b>		<b>Groundwater</b> <b>Surface Water</b>	
						<b>Investigation</b>		<b>Organic</b> <b>Wipes</b>	
<b>GPS Coordinates</b>		<b>X Easting</b>		<b>Y Northing</b>		<b>Accuracy</b>		<b>Monitoring</b>	
(UTM Zone 15 NAD83 Only)						(circle one) <b>EPE (meters)</b>		<b>Sediment</b>	
						<b>PDOP</b>		<b>Sludge</b>	
								<b>Drinking Water Supply</b>	

Remarks:

8.6c



Missouri Department of Natural Resources  
Environmental Services Program



Order ID 120920005

Program, Contact: HWP Julieann Warren

Report Date: 10/03/2012

LDPR/JobCode: FEPA8 / NJ12SCMF



Sample: AB84670



Customer #: 1201231

Facility ID:  
County: Greene

Site: Solo Cup Manufacturing  
Sample Reference ID:

Collector: KENNETH HANNON

Affiliation: ESP

Collect Date: 9/19/2012 11:40:00AM

Entry Point:

Sample Comment: Trip Blank--Grab

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	1,1,1,2-Tetrachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1,1-Trichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1,2,2-Tetrachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1,2-Trichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1-Dichloropropene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichlorobenzene	<2.5	ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichloropropane	<1	ND	µg/L	17,974	8260B
VOAs	1,2,4-Trichlorobenzene	<2.5	ND	µg/L	17,974	8260B
VOAs	1,2,4-Trimethylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dibromo-3-chloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dibromoethane (EDB)	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dichlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,3,5-Trimethylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,3-Dichlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,3-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,4-Dichlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1-Chlorobutane	<0.5	ND	µg/L	17,974	8260B
VOAs	2,2-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	2-Butanone (MEK)	<2.5	ND	µg/L	17,974	8260B
VOAs	2-Chlorotoluene	<0.5	ND	µg/L	17,974	8260B
VOAs	2-Hexanone	<1	ND	µg/L	17,974	8260B



Sample: AB84670



Customer #: 1201231

Facility ID:

County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Trip Blank--Grab

Site: Solo Cup Manufacturing

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 11:40:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	2-Nitropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	4-Chlorotoluene	<0.5	ND	µg/L	17,974	8260B
VOAs	4-Methyl-2-pentanone(MIBK)	<0.5	ND	µg/L	17,974	8260B
VOAs	acetone	<10	ND	µg/L	17,974	8260B
VOAs	Acrylonitrile	<1	ND	µg/L	17,974	8260B
VOAs	Allyl Chloride	<0.5	ND	µg/L	17,974	8260B
VOAs	Benzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromochloromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromodichloromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromoform	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromomethane	<2.5	ND	µg/L	17,974	8260B
VOAs	carbon disulfide	<0.5	ND	µg/L	17,974	8260B
VOAs	Carbon Tetrachloride	<0.5	ND	µg/L	17,974	8260B
VOAs	Chloroacetonitrile	<12.5	ND	µg/L	17,974	8260B
VOAs	Chlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Chloroethane	<2.5	ND	µg/L	17,974	8260B
VOAs	Chloroform	<0.5	ND	µg/L	17,974	8260B
VOAs	Chloromethane	<12.5	ND	µg/L	17,974	8260B
VOAs	cis-1,2-dichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	cis-1,3-Dichloropropene	<0.5	ND	µg/L	17,974	8260B
VOAs	Dibromochloromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Dibromomethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Dichlorodifluoromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Diethyl ether	<10	ND	µg/L	17,974	8260B
VOAs	Ethylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Ethylmethacrylate	<0.5	ND	µg/L	17,974	8260B
VOAs	Hexachlorobutadiene	<1	ND	µg/L	17,974	8260B
VOAs	Hexachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Iodomethane	<2.5	ND	µg/L	17,974	8260B
VOAs	Isopropylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	m&p-Xylenes	<0.5	ND	µg/L	17,974	8260B
VOAs	Methacrylonitrile	<0.5	ND	µg/L	17,974	8260B
VOAs	Methyl Acrylate	<5	ND	µg/L	17,974	8260B
VOAs	Methylene chloride	<10	ND	µg/L	17,974	8260B

**Sample: AB84670****Customer #: 1201231****Facility ID:**  
**County:** Greene**Collector:** KENNETH HANNON**Entry Point:****Sample Comment:** Trip Blank--Grab**Site:** Solo Cup Manufacturing**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 9/19/2012 11:40:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Methylmethacrylate	<0.5	ND	µg/L	17,974	8260B
VOAs	Methyl-I-butyl ether	<0.5	ND	µg/L	17,974	8260B
VOAs	Naphthalene	<2.5	ND	µg/L	17,974	8260B
VOAs	n-Butylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Nitrobenzene	<5	ND	µg/L	17,974	8260B
VOAs	n-Propylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	o-Xylene	<0.5	ND	µg/L	17,974	8260B
VOAs	Pentachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	p-isopropyltoluene	<0.5	ND	µg/L	17,974	8260B
VOAs	Propionitrile	<10	ND	µg/L	17,974	8260B
VOAs	sec-Butylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Styrene	<0.5	ND	µg/L	17,974	8260B
VOAs	tert-Butylbenzene	<1	ND	µg/L	17,974	8260B
VOAs	Tetrachloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	Tetrahydrofuran	<2.5	ND	µg/L	17,974	8260B
VOAs	Toluene	<0.5	ND	µg/L	17,974	8260B
VOAs	Total Xylenes	<1	ND	µg/L	17,974	8260B
VOAs	trans-1,2-Dichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	trans-1,3-Dichloropropene	<0.5	ND	µg/L	17,974	8260B
VOAs	trans-1,4-Dichloro-2-butene	<0.5	ND	µg/L	17,974	8260B
VOAs	Trichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	Trichlorofluoromethane	<2.5	ND	µg/L	17,974	8260B
VOAs	Vinyl Chloride	<0.5	ND	µg/L	17,974	8260B

**Sample: AB84671****Customer #: 1201232****Facility ID:**  
**County:** Greene**Collector:** KENNETH HANNON**Entry Point:****Sample Comment:** Water grab sample collected from well MW-4.**Site:** Solo Cup Manufacturing**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 9/19/2012 11:55:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
Field pH	Field pH	3.41		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	389 µS/cm				SM 2510
Field Temperature	Field Temperature	22.1°C				EPA 170.1



Sample: AB84671



Customer #: 1201232

Facility ID:  
County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Water grab sample collected from well MW-4.

Site: Solo Cup Manufacturing  
Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 11:55:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	1,1,1,2-Tetrachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1,1-Trichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1,2,2-Tetrachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1,2-Trichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1-Dichloropropene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichlorobenzene	<25.0	09, ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichloropropane	<10.0	09, ND	µg/L	17,974	8260B
VOAs	1,2,4-Trichlorobenzene	<25.0	09, ND	µg/L	17,974	8260B
VOAs	1,2,4-Trimethylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dibromo-3-chloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dibromoethane (EDB)	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dichlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,3,5-Trimethylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,3-Dichlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,3-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,4-Dichlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1-Chlorobutane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	2,2-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	2-Butanone (MEK)	<25.0	09, ND	µg/L	17,974	8260B
VOAs	2-Chlorotoluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	2-Hexanone	<10.0	09, ND	µg/L	17,974	8260B
VOAs	2-Nitropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	4-Chlorotoluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	4-Methyl-2-pentanone(MIBK)	<5.00	09, ND	µg/L	17,974	8260B
VOAs	acetone	<100	09, ND	µg/L	17,974	8260B
VOAs	Acrylonitrile	<10.0	09, ND	µg/L	17,974	8260B
VOAs	Allyl Chloride	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Benzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromochloromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromodichloromethane	<5.00	09, ND	µg/L	17,974	8260B

Sample: AB84671



Customer #: 1201232

Facility ID:  
County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Water grab sample collected from well MWV-4.

Site: Solo Cup Manufacturing  
Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 11:55:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Bromoform	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromomethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	carbon disulfide	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Carbon Tetrachloride	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Chloroacetonitrile	<125	09, ND	µg/L	17,974	8260B
VOAs	Chlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Chloroethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Chloroform	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Chloromethane	<125	09, ND	µg/L	17,974	8260B
VOAs	cis-1,2-dichloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	cis-1,3-Dichloropropene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Dibromochloromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Dibromomethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Dichlorodifluoromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Diethyl ether	<100	09, ND	µg/L	17,974	8260B
VOAs	Ethylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Ethylmethacrylate	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Hexachlorobutadiene	<10.0	09, ND	µg/L	17,974	8260B
VOAs	Hexachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Iodomethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Isopropylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	m&p-Xylenes	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Methacrylonitrile	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Methyl Acrylate	<50.0	09, ND	µg/L	17,974	8260B
VOAs	Methylene chloride	<100	09, ND	µg/L	17,974	8260B
VOAs	Methylmethacrylate	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Methyl-t-butyl ether	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Naphthalene	<25.0	09, ND	µg/L	17,974	8260B
VOAs	n-Butylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Nitrobenzene	<50.0	09, ND	µg/L	17,974	8260B
VOAs	n-Propylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	o-Xylene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Pentachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	p-isopropyltoluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Propionitrile	<100	09, ND	µg/L	17,974	8260B

**Sample: AB84671****Customer #: 1201232****Facility ID:****County:** Greene**Collector:** KENNETH HANNON**Entry Point:****Sample Comment:** Water grab sample collected from well MW-4.**Site:** Solo Cup Manufacturing**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 9/19/2012 11:55:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	sec-Butylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Styrene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	tert-Butylbenzene	<10.0	09, ND	µg/L	17,974	8260B
VOAs	Tetrachloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Tetrahydrofuran	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Toluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Total Xylenes	<10.0	09, ND	µg/L	17,974	8260B
VOAs	trans-1,2-Dichloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	trans-1,3-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	trans-1,4-Dichloro-2-butene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Trichloroethene	38.1	09	µg/L	17,974	8260B
VOAs	Trichlorofluoromethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Vinyl Chloride	<5.00	09, ND	µg/L	17,974	8260B

**Sample: AB84672****Customer #: 1201233****Facility ID:****County:** Greene**Collector:** KENNETH HANNON**Entry Point:****Sample Comment:** Blind Duplicate-Grab**Site:** Solo Cup Manufacturing**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 9/19/2012 12:00:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	1,1,1,2-Tetrachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1,1-Trichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1,2,2-Tetrachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1,2-Trichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,1-Dichloropropene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichlorobenzene	<25.0	09, ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichloropropane	<10.0	09, ND	µg/L	17,974	8260B
VOAs	1,2,4-Trichlorobenzene	<25.0	09, ND	µg/L	17,974	8260B
VOAs	1,2,4-Trimethylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dibromo-3-chloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dibromethane (EDB)	<5.00	09, ND	µg/L	17,974	8260B

Sample: AB84672



Customer #: 1201233

Facility ID:

County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Blind Duplicate--Grab

Site: Solo Cup Manufacturing

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 12:00:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	1,2-Dichlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dichloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,2-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,3,5-Trimethylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,3-Dichlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,3-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1,4-Dichlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	1-Chlorobutane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	2,2-Dichloropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	2-Butanone (MEK)	<25.0	09, ND	µg/L	17,974	8260B
VOAs	2-Chlorotoluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	2-Hexanone	<10.0	09, ND	µg/L	17,974	8260B
VOAs	2-Nitropropane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	4-Chlorotoluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	4-Methyl-2-pentanone(MIBK)	<5.00	09, ND	µg/L	17,974	8260B
VOAs	acetone	<100	09, ND	µg/L	17,974	8260B
VOAs	Acrylonitrile	<10.0	09, ND	µg/L	17,974	8260B
VOAs	Allyl Chloride	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Benzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromochloromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromodichloromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromoform	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Bromomethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	carbon disulfide	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Carbon Tetrachloride	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Chloroacetonitrile	<125	09, ND	µg/L	17,974	8260B
VOAs	Chlorobenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Chloroethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Chloroform	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Chloromethane	<125	09, ND	µg/L	17,974	8260B
VOAs	cis-1,2-dichloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	cis-1,3-Dichloropropene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Dibromochloromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Dibromomethane	<5.00	09, ND	µg/L	17,974	8260B

Sample: AB84672



Customer #: 1201233

Facility ID:

County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Blind Duplicate--Grab

Site: Solo Cup Manufacturing

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 12:00:00AM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Dichlorodifluoromethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Diethyl ether	<100	09, ND	µg/L	17,974	8260B
VOAs	Ethylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Ethylmethacrylate	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Hexachlorobutadiene	<10.0	09, ND	µg/L	17,974	8260B
VOAs	Hexachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Iodomethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Isopropylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	m&p-Xylenes	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Methacrylonitrile	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Methyl Acrylate	<50.0	09, ND	µg/L	17,974	8260B
VOAs	Methylene chloride	<100	09, ND	µg/L	17,974	8260B
VOAs	Methylmethacrylate	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Methyl-t-butyl ether	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Naphthalene	<25.0	09, ND	µg/L	17,974	8260B
VOAs	n-Butylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Nitrobenzene	<50.0	09, ND	µg/L	17,974	8260B
VOAs	n-Propylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	o-Xylene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Pentachloroethane	<5.00	09, ND	µg/L	17,974	8260B
VOAs	p-isopropyltoluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Propionitrile	<100	09, ND	µg/L	17,974	8260B
VOAs	sec-Butylbenzene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Styrene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	tert-Butylbenzene	<10.0	09, ND	µg/L	17,974	8260B
VOAs	Tetrachloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Tetrahydrofuran	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Toluene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Total Xylenes	<10.0	09, ND	µg/L	17,974	8260B
VOAs	trans-1,2-Dichloroethene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	trans-1,3-Dichloropropene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	trans-1,4-Dichloro-2-butene	<5.00	09, ND	µg/L	17,974	8260B
VOAs	Trichloroethene	32.9	09	µg/L	17,974	8260B
VOAs	Trichlorofluoromethane	<25.0	09, ND	µg/L	17,974	8260B
VOAs	Vinyl Chloride	<5.00	09, ND	µg/L	17,974	8260B

Sample: AB84673



Customer #: 1201234

Facility ID:

County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Water grab collected from well MW-3.

Site: Solo Cup Manufacturing

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 12:20:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
Field pH	Field pH	3.76		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	122 µS/cm				SM 2510
Field Temperature	Field Temperature	23.5°C				EPA 170.1
VOAs	1,1,1,2-Tetrachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1,1-Trichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1,2,2-Tetrachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1,2-Trichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1-Dichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,1-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichlorobenzene	<2.5	ND	µg/L	17,974	8260B
VOAs	1,2,3-Trichloropropane	<1	ND	µg/L	17,974	8260B
VOAs	1,2,4-Trichlorobenzene	<2.5	ND	µg/L	17,974	8260B
VOAs	1,2,4-Trimethylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dibromo-3-chloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dibromoethane (EDB)	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dichlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dichloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,2-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,3,5-Trimethylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,3-Dichlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1,3-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	1,4-Dichlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	1-Chlorobutane	<0.5	ND	µg/L	17,974	8260B
VOAs	2,2-Dichloropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	2-Butanone (MEK)	<2.5	ND	µg/L	17,974	8260B
VOAs	2-Chlorotoluene	<0.5	ND	µg/L	17,974	8260B
VOAs	2-Hexanone	<1	ND	µg/L	17,974	8260B
VOAs	2-Nitropropane	<0.5	ND	µg/L	17,974	8260B
VOAs	4-Chlorotoluene	<0.5	ND	µg/L	17,974	8260B
VOAs	4-Methyl-2-pentanone(MIBK)	<0.5	ND	µg/L	17,974	8260B
VOAs	acetone	<10	ND	µg/L	17,974	8260B
VOAs	Acrylonitrile	<1	ND	µg/L	17,974	8260B
VOAs	Allyl Chloride	<0.5	ND	µg/L	17,974	8260B
VOAs	Benzene	<0.5	ND	µg/L	17,974	8260B

Sample: AB84673



Customer #: 1201234

Facility ID:

County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Water grab collected from well MW-3.

Site: Solo Cup Manufacturing

Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 12:20:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Bromobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromochloromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromodichloromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromoform	<0.5	ND	µg/L	17,974	8260B
VOAs	Bromomethane	<2.5	ND	µg/L	17,974	8260B
VOAs	carbon disulfide	<0.5	ND	µg/L	17,974	8260B
VOAs	Carbon Tetrachloride	<0.5	ND	µg/L	17,974	8260B
VOAs	Chloroacetonitrile	<12.5	ND	µg/L	17,974	8260B
VOAs	Chlorobenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Chloroethane	<2.5	ND	µg/L	17,974	8260B
VOAs	Chloroform	<0.5	ND	µg/L	17,974	8260B
VOAs	Chloromethane	<12.5	ND	µg/L	17,974	8260B
VOAs	cis-1,2-dichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	cis-1,3-Dichloropropene	<0.5	ND	µg/L	17,974	8260B
VOAs	Dibromochloromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Dibromomethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Dichlorodifluoromethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Diethyl ether	<10	ND	µg/L	17,974	8260B
VOAs	Ethylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Ethylmethacrylate	<0.5	ND	µg/L	17,974	8260B
VOAs	Hexachlorobutadiene	<1	ND	µg/L	17,974	8260B
VOAs	Hexachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	Iodomethane	<2.5	ND	µg/L	17,974	8260B
VOAs	Isopropylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	m&p-Xylenes	<0.5	ND	µg/L	17,974	8260B
VOAs	Methacrylonitrile	<0.5	ND	µg/L	17,974	8260B
VOAs	Methyl Acrylate	<5	ND	µg/L	17,974	8260B
VOAs	Methylene chloride	<10	ND	µg/L	17,974	8260B
VOAs	Methylmethacrylate	<0.5	ND	µg/L	17,974	8260B
VOAs	Methyl t-butyl ether	<0.5	ND	µg/L	17,974	8260B
VOAs	Naphthalene	<2.5	ND	µg/L	17,974	8260B
VOAs	n-Butylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Nitrobenzene	<5	ND	µg/L	17,974	8260B
VOAs	n-Propylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	o-Xylene	<0.5	ND	µg/L	17,974	8260B

Sample: AB84673



Customer #: 1201234

Facility ID:  
County: Greene

Collector: KENNETH HANNON

Entry Point:

Sample Comment: Water grab collected from well MW-3.

Site: Solo Cup Manufacturing  
Sample Reference ID:

Affiliation: ESP

Collect Date: 9/19/2012 12:20:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Pentachloroethane	<0.5	ND	µg/L	17,974	8260B
VOAs	p-isopropyltoluene	<0.5	ND	µg/L	17,974	8260B
VOAs	Propionitrile	<10	ND	µg/L	17,974	8260B
VOAs	sec-Butylbenzene	<0.5	ND	µg/L	17,974	8260B
VOAs	Styrene	<0.5	ND	µg/L	17,974	8260B
VOAs	tert-Butylbenzene	<1	ND	µg/L	17,974	8260B
VOAs	Tetrachloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	Tetrahydrofuran	<2.5	ND	µg/L	17,974	8260B
VOAs	Toluene	<0.5	ND	µg/L	17,974	8260B
VOAs	Total Xylenes	<1	ND	µg/L	17,974	8260B
VOAs	trans-1,2-Dichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	trans-1,3-Dichloropropene	<0.5	ND	µg/L	17,974	8260B
VOAs	trans-1,4-Dichloro-2-butene	<0.5	ND	µg/L	17,974	8260B
VOAs	Trichloroethene	<0.5	ND	µg/L	17,974	8260B
VOAs	Trichlorofluoromethane	<2.5	ND	µg/L	17,974	8260B
VOAs	Vinyl Chloride	<0.5	ND	µg/L	17,974	8260B

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S Environmental Protection Agency.

**Qualifier Descriptions**

01 Improper collection method

03 Exceeded holding time

05 Estimated value, detected below PQL

07 Estimated value, analyte outside calibration range

09 Sample was diluted during analysis

11 Estimated value, matrix interference

13 Estimated value, true result is &gt;= reported value

15 No Result - Failed Quality Controls Requirements

17 Results in dry weight

19 Estimated value

21 No result - spectral interference

23 Contract Lab specific qualifier - see sample comments

25 No Result: Excessive Chlorination

ND Not detected at reported value

02 Improper preservation

04 Analyzed by Contract Laboratory

06 Estimated value, QC data outside limits

08 Analyte present in blank at &gt; 1/2 reported value

10 Laboratory error

12 Insufficient quantity

14 Estimated value, non-homogeneous sample

16 Not analyzed - related analyte not detected

18 Sample pH is outside the acceptable range

20 Not analyzed - Instrument failure

22 pH was performed at the Laboratory

24 No result - matrix interference

26 No Result: Excessive Dechlorination

*Chris Boldt*

Chris Boldt, Laboratory Manager  
Environmental Services Program  
Division of Environmental Quality





# **Phase II Integrated Site Inspection/Removal Site Evaluation Background Sampling Report**

**Smith Park Site  
Springfield, Missouri  
Greene County  
Order # 10512148**

**May 10, 2010**

Prepared For:

Missouri Department of Natural Resources  
Division of Environmental Quality  
Hazardous Waste Program

Prepared By:

Missouri Department of Natural Resources  
Division of Environmental Quality  
Environmental Services Program

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Attachments.....Located at back of report

Appendix A – Site Map/Sample Location Map  
Appendix B – Analytical Results  
Appendix C – Field Notes/Soil Boring Logs  
Appendix D – Chain of Custody

## **1.0 Introduction**

As authorized under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986, the Missouri Department of Natural Resources (MDNR), Hazardous Waste Program (HWP), Site Assessment Unit requested Environmental Services Program (ESP) personnel to conduct a Phase II Integrated Site Inspection/ Removal Site Evaluation (SI/RSE) on a former electroplating facility in Springfield, MO. Smith Park was selected as the location for the background sample collection.

The objectives of the SI/RSE included obtaining data to delineate the extent of, and score the hazardous substances present in surface soil, subsurface soil, and groundwater; evaluate the release pursuant to the Hazard Ranking System (HRS); assess the threat to public health and the environment, and determine the need for further investigation under CERCLA or response under other regulatory authorities.

On May 10, 2010 ESP Environmental Specialists Sean Counihan, Ken Hannon, Ben Frissell, Brad Swank, and HWP Environmental Specialist Chinwe Ndubuka traveled to the site to conduct sampling.

## **2.0 Site Information**

### **2.1 Location**

Background samples for the plating site were collected from Smith Park, 1536 East Division, Springfield, MO 65802 (See Site Map, Appendix A). The MDNR was granted access to sample from this site as of 02/10/2010 by Mr. Miles Park, Superintendent of Operations, Springfield Parks Board.

### **2.2 Description**

The plating facility property is suspected of having the presence of volatile organic compounds (VOCs), hexavalent chromium, chromium, lead (and other metals), cyanide and trichloroethylene (TCE) in both soil and ground water. The purpose of collecting background samples is to identify the natural presence of these substances (if any) and in what amounts. These background levels provide a defensible reference point that can determine if a release of these substances has occurred at the site in question. Wildlife areas and parks are often chosen as background sites because of their probable absence of industrial use.

An abbreviated report was requested, showing all activities and results from sampling that took place at Smith Park. As a result Smith Park was treated as a completely separate site from the plating site.

### **3.0 Methods**

#### **3.1 Field Procedures**

A health and safety briefing was conducted on-site and ESP/HWP personnel read and signed the site-specific health and safety plan.

All sample locations and descriptions were recorded in bound field notebooks maintained by ESP personnel. Locations where samples were collected were assigned a unique location identification number (ID). (Refer to Tables 1 and 2)

DIG-RITE was notified April 28, to mark underground utilities for their subscribers in the area, ticket number 101180907 for Smith Park.

All aspects of sampling were performed using standard operating procedures (SOPs) established within ESP for the collection, preservation, and transport of various media sampled. ESP staff also adhered to the Quality Assurance Project Plan for Pre-Remedial/Pre-Removal and Targeted Brownfields Site Assessments, Revision 6.

##### **3.1.1 Soil sampling**

###### **3.1.1.1 Surface Soil Sampling**

The Smith Park site was broken into two sampling units (SUs) as illustrated in the Sample Location Map (Appendix A). Each of the SUs had a composite sample, consisting of 20 aliquots, taken from the 0-2 inches depth using clean stainless steel spoons. The soils were transferred to clean aluminum foil pans, homogenized, and placed into sample containers. Two composite samples were collected at Smith Park

###### **3.1.1.2 Depth Discrete Soil Sampling**

Soil borings were conducted in selected areas, and composite samples were collected from a discrete depth utilizing a truck-mounted hydraulic soil probe. Clean disposable polyvinyl chloride (PVC), heavy-walled liners were inserted into stainless steel macro core samplers fitted with clean or field decontaminated cutting shoes. The core sampler was advanced via drive rods to a maximum depth of five feet and the sampler and soil retrieved. The soil core was screened at one foot intervals for volatile organic compounds (VOCs) using a photo ionization detector (PID). No PID readings were detected above background; therefore no sample was collected for VOC analysis. The sample consisted of a composite from the 0-3 feet range. Personnel utilized clean stainless steel spoons to transfer that portion of the sample to clean aluminum foil pans for homogenization prior to placement into sample containers. One depth discrete sample (SB-1) was collected at Smith Park.

### **3.1.2 Water sampling**

Field instruments used during the water sample collection include: pH, temperature, and specific conductivity meters. All instruments were calibrated on-site per manufacturers' specifications.

#### **3.1.2.1 Groundwater sampling**

##### **3.1.2.1.1 Temporary Monitoring Well Installation**

A ground water sample was collected from Smith Park. The temporary well was installed by using truck-mounted Geoprobe hydraulic soil probe using a direct push method to a depth of 20 feet or until refusal. SB-1, where the sub-surface soil sample was collected, was to be the location for the groundwater sample as well. However, refusal was reached at a depth of 11 feet when bedrock was encountered. No ground water was present at this depth. As a result, a second soil boring was needed. SB-2 was created just as a possible ground water source. Refusal was reached at 14 feet, with a small amount of water encountered, however not enough to yield the amount of water needed for sample collection at that time. A slotted PVC pipe and risers were advanced to the bottom of the borehole. Refer to the Soil Boring Logs (Appendix C).

Efforts were made to allow the well an opportunity to stabilize overnight before sample collection. The well was removed and properly closed after sampling was completed. All wells and soil borings greater than 10-ft. depth were registered with the DGLS.

Well evacuation and sampling was performed using low flow methodology by employing a peristaltic pump capable of adjusting flow rates within a range of 100-500 ml/min. The tubing was lowered to within the upper 1/3 of the screened interval. The pump was adjusted to a flow rate between 100-500 ml/min and every three minutes, water quality parameters (pH, specific conductivity, and temperature) were determined. Groundwater samples were collected after parameters stabilized for two consecutive readings for a total time of six minutes. Drawdown rates were constantly monitored to determine if the water column was being drawn down. To avoid potential degassing/pressure-change issues related to water moving through the peristaltic pump apparatus, the ground water samples were collected prior to contact with the peristaltic pump. An extra length of Teflon tubing (approximately ten feet long) was connected to the downhole tubing at a location between the well head and the peristaltic pump. Once purging was completed, the extra length of tubing, filled with representative groundwater, was disconnected from both the downhole tubing and the pump tubing. Water from that tubing was then gently poured into pre-preserved VOA vials.

### **3.2 Sampling Order**

Samples were collected in a logical order so as to simplify the sampling process. Regardless of order, all samples were collected using clean equipment to minimize cross-contamination.



### **3.3 Analyses Requested**

Based on the history of the plating site all samples were submitted for laboratory analysis of cyanide and total metals: arsenic (As), cadmium (Cd), chromium (Cr), hexavalent chromium (Cr+6), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn). Groundwater samples were also submitted for dissolved metals and VOC analyses. Instructions were relayed to analytical personnel that if a sample's total analyte results are 80% of twenty times the Toxicity Characteristic Leaching Procedure (TCLP) regulatory limit, TCLP analysis was to be performed on that sample. It was requested that method 8260B for VOC analyses and method 7196A for hexavalent chromium analyses to be used for all water samples submitted.

### **3.4 Chain-of-Custody**

All samples received a numbered label and the corresponding number entered onto a chain-of-custody form indicating the description, location, date and time of collection, and analytes requested. Samples were stored and transported on ice in coolers. ESP field personnel maintained custody of the samples until relinquishing them to a sample custodian at the state's environmental laboratory within the Environmental Services Program in Jefferson City for analyses.

## **4.0 Data Quality**

The data quality objectives (DQOs) for this SI/RSE investigation were to determine whether further assessment under CERCLA is warranted, and whether to recommend it; determine the priority for further CERCLA investigation if warranted; determine whether a removal action is warranted, and if so, what type (emergency, time-critical, or non-time-critical); and collect data in addition to that required to score the release pursuant to the HRS, as appropriate, to better characterize the release for more effective, and rapid initiation of further CERCLA investigation or response under other authorities, if necessary. The DQOs are further described in Sections A4.2.4, A4.2.5 and A4.2.6 of the Quality Assurance Project Plan for Pre-Remedial/Pre-Removal Site and Brownfields Site Assessments, Revision 6.

### **4.1 Field Methods**

Clean disposable nitrile gloves were worn by sampling personnel and clean or field decontaminated equipment was utilized for each separate sample collected to minimize the possibility of cross-contamination.

Field personnel noted all observations, sample locations, descriptions, and methods in a bound field logbook.

### **4.2 Field Decontamination**

Field decontamination of sampling equipment was accomplished as follows:

- Nylon brushing with a solution of Simple Green cleaner
- Tap water rinse
- Final deionized water rinse

## **5.0 Investigation Derived Wastes (IDW) Plan**

Unused soil, disposable personal protective equipment, and disposable sampling equipment were handled as solid waste, containerized, and properly disposed. IDW generated during well evacuations was discharged to the ground.

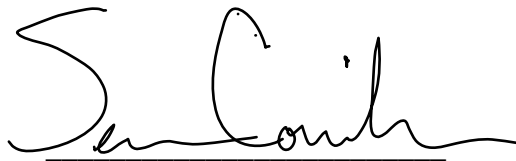
## **6.0 Observations**

Smith Park (1536 East Division, Springfield, MO) was the location selected for background samples to be collected for comparison to the plating facility site. The sampling team arrived at Smith Park around 1315 hours on 5/10/10. Weather was cloudy and cold, with temperatures around 55 degrees Fahrenheit, and with mist on and off throughout the day. The sampling team collected two surface soil samples and one subsurface sample on 5/10. The sampling team returned on 5/11 to complete sampling and collect the one ground water sample. Weather on 5/11 was mostly cloudy with temperatures around 72 degrees Fahrenheit.

## **7.0 Data Reporting**

Please refer to Appendix B for analytical results of samples collected

Submitted by:

A handwritten signature in black ink, appearing to read 'Sean Counihan', written over a horizontal line.

Sean Counihan  
Environmental Specialist  
Field Services Unit  
Environmental Services Program

- c: Chinwe Ndubuka, Superfund Site Assessment Unit, HWP  
Julieann Warren, Unit Chief, Superfund Site Assessment Unit, HWP

## APPENDIX A

### **Site Map/Sample Location Map**

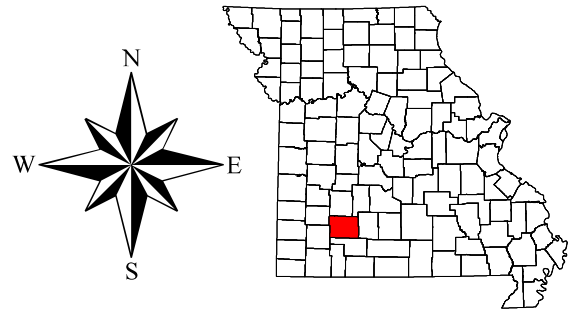
Smith Park Site  
Greene County  
Springfield, Missouri



**Background Sample Location Map**  
**Smith Park**  
**1536 East Division Street,**  
**Springfield, Greene County, MO 65803**

**Legend**

- ★ Smith Park
- Soil Sample
- ⊕ Temporary Monitoring Well
- Road
- Losing Stream
- Composite Sample Unit (SU)
- Park Boundary



Created on: May 19, 2010 by Chinwe Ndubuka. This map is located at M/Superfund/Smith\_Park/Background\_Sample\_Location\_Map

Base Map: National Agricultural Imagery Program, 2007.  
Flight Date: 2006

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



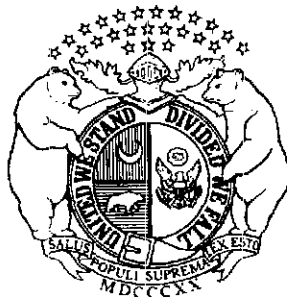
## APPENDIX B

### **Analytical Results**

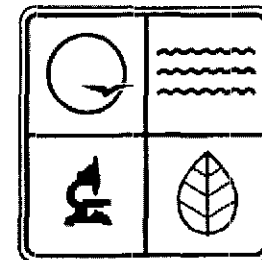
Smith Park Site

Greene County

Springfield, Missouri



Missouri Department of Natural Resources  
Environmental Services Program



Order ID 100512148

Program, Contact: HWP Julieann Warren

Report Date: 06/24/2010

LDPR/JobCode: FEPA5 / NJ07HILL



Sample: AB20281

Facility ID:

Site: Smith Park

County: Greene

Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 5/10/2010 1:39:00PM

Customer #: 1004534

Entry Point:

Sample Comment: Soil boring SB-1

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	2820		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	220	11, 05	µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	17600		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Copper	8990		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Lead	35500		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Nickel	9930		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Zinc	48500		µg/kg	5,394	SW 846 6010B
Cyanide	Cyanide	<1.5	ND,04	mg/kg	5,418	Contract Lab Dep
Hexavalent Chromium	Hexavalent Chromium	0.24	04	mg/Kg	5,705	Contract Lab Dep
Percent Moisture	Percent Moisture	16.60		%	5,403	Infrared Drying
Percent Moisture	Percent Moisture	18	04	%	5,420	Contract Lab Dep

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S Environmental Protection Agency.

Qualifier Descriptions

01 Improper collection method  
03 Exceeded holding time  
05 Estimated value, detected below PQL  
07 Estimated value, analyte outside calibration range  
09 Sample was diluted during analysis  
11 Estimated value, matrix interference  
13 Estimated value, true result is > reported value  
15 No Result - Failed Quality Controls Requirements  
17 Results in dry weight  
19 Estimated value  
21 No result - spectral interference  
23 Contract Lab specific qualifier - see sample comments  
25 No Result: Excessive Chlorination  
ND Not detected at reported value

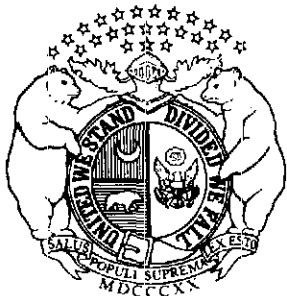
02 Improper preservation  
04 Analyzed by Contract Laboratory  
06 Estimated value, QC data outside limits  
08 Analyte present in blank at > 1/2 reported value  
10 Laboratory error  
12 Insufficient quantity  
14 Estimated value, non-homogeneous sample  
16 Not analyzed - related analyte not detected  
18 Sample pH is outside the acceptable range  
20 Not analyzed - Instrument failure  
22 pH was performed at the Laboratory  
24 No result - matrix interference  
25 No Result: Excessive Dechlorination

Chris Boldt

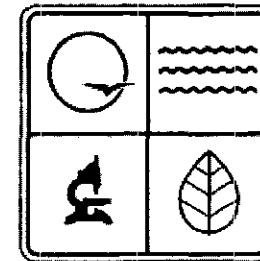
Chris Boldt, Laboratory Manager  
Environmental Services Program  
Field Services Division







Missouri Department of Natural Resources  
Environmental Services Program



Order ID 100512148

Program, Contact: HWP Julieann Warren

Report Date: 06/24/2010

LDPR/JobCode: FEPA5 / NJ07HILL



Sample: AB20282

Facility ID:

Site: Smith Park

County: Greene

Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 5/10/2010 1:50:00PM

Customer #: 1004535

Entry Point:

Sample Comment: S. S. 1 from S. U. 1

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	4100		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	405	11, 05	µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	22400		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Copper	12200		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Lead	55600		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Nickel	10300		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Zinc	81300		µg/kg	5,394	SW 846 6010B
Cyanide	Cyanide	<1.8	ND,04	mg/kg	5,418	Contract Lab Dep
Hexavalent Chromium	Hexavalent Chromium	0.11	04	mg/Kg	5,705	Contract Lab Dep
Percent Moisture	Percent Moisture	30	04	%	5,420	Contract Lab Dep
Percent Moisture	Percent Moisture	28.49		%	5,403	Infrared Drying

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S Environmental Protection Agency.

**Qualifier Descriptions**

01 Improper collection method  
03 Exceeded holding time  
05 Estimated value, detected below PQL  
07 Estimated value, analyte outside calibration range  
09 Sample was diluted during analysis  
11 Estimated value, matrix interference  
13 Estimated value, true result is > reported value  
15 No Result - Failed Quality Controls Requirements  
17 Results in dry weight  
19 Estimated value  
21 No result - spectral interference  
23 Contract Lab specific qualifier - see sample comments  
25 No Result: Excessive Chlorination  
ND Not detected at reported value

02 Improper preservation  
04 Analyzed by Contract Laboratory  
06 Estimated value, QC data outside limits  
08 Analyte present in blank at > 1/2 reported value  
10 Laboratory error  
12 Insufficient quantity  
14 Estimated value, non-homogeneous sample  
16 Not analyzed - related analyte not detected  
18 Sample pH is outside the acceptable range  
20 Not analyzed - Instrument failure  
22 pH was performed at the Laboratory  
24 No result - matrix interference  
25 No Result: Excessive Dechlorination

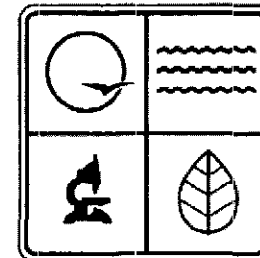
*Chris Boldt*

Chris Boldt, Laboratory Manager  
Environmental Services Program  
Field Services Division





Missouri Department of Natural Resources  
Environmental Services Program



Order ID 100512148

Program, Contact: HWP Julieann Warren

Report Date: 06/24/2010

LDPR/JobCode: FEPA5 / NJ07HILL



Sample: AB20283

Facility ID:

Site: Smith Park

County: Greene

Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 5/10/2010 1:54:00PM

Customer #: 1004536

Entry Point:

Sample Comment: S. S. 2 from S. U. 2

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6010B Metals-Total Recoverable	Arsenic	6230		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Cadmium	446	11, 05	µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Chromium	24200		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Copper	15700		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Lead	59200		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Nickel	11700		µg/kg	5,394	SW 846 6010B
6010B Metals-Total Recoverable	Zinc	87000		µg/kg	5,394	SW 846 6010B
Cyanide	Cyanide	<1.8	ND,04	mg/kg	5,418	Contract Lab Dep
Hexavalent Chromium	Hexavalent Chromium	0.18	04	mg/Kg	5,705	Contract Lab Dep
Percent Moisture	Percent Moisture	33.85		%	5,403	Infrared Drying
Percent Moisture	Percent Moisture	32	04	%	5,420	Contract Lab Dep

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S Environmental Protection Agency.

**Qualifier Descriptions**

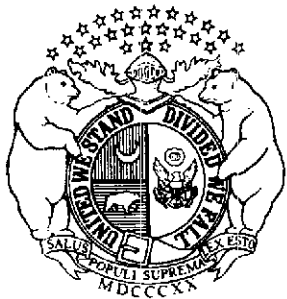
01 Improper collection method  
03 Exceeded holding time  
05 Estimated value, detected below PQL  
07 Estimated value, analyte outside calibration range  
09 Sample was diluted during analysis  
11 Estimated value, matrix interference  
13 Estimated value, true result is > reported value  
15 No Result - Failed Quality Controls Requirements  
17 Results in dry weight  
19 Estimated value  
21 No result - spectral interference  
23 Contract Lab specific qualifier - see sample comments  
25 No Result: Excessive Chlorination  
ND Not detected at reported value

02 Improper preservation  
04 Analyzed by Contract Laboratory  
06 Estimated value, QC data outside limits  
08 Analyte present in blank at > 1/2 reported value  
10 Laboratory error  
12 Insufficient quantity  
14 Estimated value, non-homogeneous sample  
16 Not analyzed - related analyte not detected  
18 Sample pH is outside the acceptable range  
20 Not analyzed - Instrument failure  
22 pH was performed at the Laboratory  
24 No result - matrix interference  
25 No Result: Excessive Dechlorination

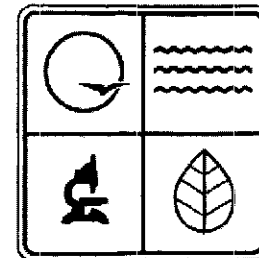
*Chris Boldt*

Chris Boldt, Laboratory Manager  
Environmental Services Program  
Field Services Division





Missouri Department of Natural Resources  
Environmental Services Program



Order ID 100512148

Program, Contact: HWP Julieann Warren

Report Date: 06/24/2010

LDPR/JobCode: FEPA5 / NJ07HILL



Sample: AB20284

Facility ID:

Site: Smith Park

County: Greene

Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 5/11/2010 12:49:00PM

Customer #: 1004548

Entry Point:

Sample Comment: Ground water from SB-2

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
6020 Metals-Dissolved	Arsenic	<0.25	ND	µg/L	5,286	SW 846 6020
6020 Metals-Dissolved	Cadmium	0.06	05	µg/L	5,286	SW 846 6020
6020 Metals-Dissolved	Chromium	1.53		µg/L	5,286	SW 846 6020
6020 Metals-Dissolved	Copper	1.06		µg/L	5,286	SW 846 6020
6020 Metals-Dissolved	Lead	<0.25	ND	µg/L	5,286	SW 846 6020
6020 Metals-Dissolved	Nickel	2.88		µg/L	5,286	SW 846 6020
6020 Metals-Dissolved	Zinc	4.92		µg/L	5,286	SW 846 6020
6020 Metals-Total Recoverable	Arsenic	80.6	09	µg/L	5,261	SW 846 6020
6020 Metals-Total Recoverable	Cadmium	56.4	09	µg/L	5,261	SW 846 6020
6020 Metals-Total Recoverable	Chromium	902	09	µg/L	5,261	SW 846 6020
6020 Metals-Total Recoverable	Copper	377	09	µg/L	5,261	SW 846 6020
6020 Metals-Total Recoverable	Lead	717	09	µg/L	5,261	SW 846 6020
6020 Metals-Total Recoverable	Nickel	902	09	µg/L	5,261	SW 846 6020
6020 Metals-Total Recoverable	Zinc	3170	09	µg/L	5,261	SW 846 6020
Cyanide	Cyanide	<0.003	ND	mg/L	5,291	L 10-204-00-1-X
Field pH	Field pH	7.33		pH Units		EPA 150.1
Field Specific Conductivity	Field Specific Conductivity	659 µS/cm				SM 2510
Field Temperature	Field Temperature	18.8 C				EPA 170.1
Hexavalent Chromium	Hexavalent Chromium	<0.002	ND	mg/L	5,052	SW 846 7196A
VOAs	1,1,1,2-Tetrachloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,1,1-Trichloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,1,2,2-Tetrachloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,1,2-Trichloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,1-Dichloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,1-Dichloroethene	<0.5	ND	µg/L	5,050	8260B
VOAs	1,1-Dichloropropanone	<1	ND	µg/L	5,050	8260B



Sample: AB20284



Customer #: 1004548

Facility ID:

County: Greene

Collector: SEAN COUNIHAN

Entry Point:

Sample Comment: Ground water from SB-2

Site: Smith Park

Sample Reference ID:

Affiliation: ESP

Collect Date: 5/11/2010 12:49:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	1,1-Dichloropropene	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2,3-Trichlorobenzene	<2.5	ND	µg/L	5,050	8260B
VOAs	1,2,3-Trichloropropane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2,4-Trichlorobenzene	<2.5	ND	µg/L	5,050	8260B
VOAs	1,2,4-Trimethylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2-Dibromo-3-chloropropane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2-Dibromoethane (EDB)	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2-Dichlorobenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2-Dichloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,2-Dichloropropane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,3,5-Trimethylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	1,3-Dichlorobenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	1,3-Dichloropropane	<0.5	ND	µg/L	5,050	8260B
VOAs	1,4-Dichlorobenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	1-Chlorobutane	<0.5	ND	µg/L	5,050	8260B
VOAs	2,2-Dichloropropane	<0.5	ND	µg/L	5,050	8260B
VOAs	2-Butanone (MEK)	<2.5	ND	µg/L	5,050	8260B
VOAs	2-Chlorotoluene	<0.5	ND	µg/L	5,050	8260B
VOAs	2-Hexanone	<1	ND	µg/L	5,050	8260B
VOAs	2-Nitropropane	<0.5	ND	µg/L	5,050	8260B
VOAs	4-Chlorotoluene	<0.5	ND	µg/L	5,050	8260B
VOAs	4-Methyl-2-pentanone(MIBK)	<0.5	ND	µg/L	5,050	8260B
VOAs	acetone	<10	ND	µg/L	5,050	8260B
VOAs	Acrylonitrile	<1	ND	µg/L	5,050	8260B
VOAs	Allyl Chloride	<0.5	ND	µg/L	5,050	8260B
VOAs	Benzene	<0.5	ND	µg/L	5,050	8260B
VOAs	Bromobenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	Bromochloromethane	<0.5	ND	µg/L	5,050	8260B
VOAs	Bromodichloromethane	<0.5	ND	µg/L	5,050	8260B
VOAs	Bromoform	<0.5	ND	µg/L	5,050	8260B
VOAs	Bromomethane	<2.5	ND	µg/L	5,050	8260B
VOAs	carbon disulfide	<0.5	ND	µg/L	5,050	8260B
VOAs	Carbon Tetrachloride	<0.5	ND	µg/L	5,050	8260B
VOAs	Chloroacetonitrile	<12.5	ND	µg/L	5,050	8260B
VOAs	Chlorobenzene	<0.5	ND	µg/L	5,050	8260B

Sample: AB20284

Facility ID:

Site: Smith Park

County: Greene

Sample Reference ID:

Collector: SEAN COUNIHAN

Affiliation: ESP

Collect Date: 5/11/2010 12:49:00PM

Customer #: 1004548

Entry Point:

Sample Comment: Ground water from SB-2

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Chloroethane	<2.5	ND	µg/L	5,050	8260B
VOAs	Chloroform	<0.5	ND	µg/L	5,050	8260B
VOAs	Chloromethane	<12.5	ND	µg/L	5,050	8260B
VOAs	cis-1,2-dichloroethene	<0.5	ND	µg/L	5,050	8260B
VOAs	cis-1,3-Dichloropropene	<0.5	ND	µg/L	5,050	8260B
VOAs	Dibromochloromethane	<0.5	ND	µg/L	5,050	8260B
VOAs	Dibromomethane	<0.5	ND	µg/L	5,050	8260B
VOAs	Dichlorodifluoromethane	<0.5	ND	µg/L	5,050	8260B
VOAs	Diethyl ether	<10	ND	µg/L	5,050	8260B
VOAs	Ethylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	Ethylmethacrylate	<0.5	ND	µg/L	5,050	8260B
VOAs	Hexachlorobutadiene	<1	ND	µg/L	5,050	8260B
VOAs	Hexachloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	Iodomethane	<2.5	ND	µg/L	5,050	8260B
VOAs	Isopropylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	m&p-Xylenes	<0.5	ND	µg/L	5,050	8260B
VOAs	Methacrylonitrile	<0.5	ND	µg/L	5,050	8260B
VOAs	Methyl Acrylate	<5	ND	µg/L	5,050	8260B
VOAs	Methylene chloride	<10	ND	µg/L	5,050	8260B
VOAs	Methylmethacrylate	<0.5	ND	µg/L	5,050	8260B
VOAs	Methyl-t-butyl ether	<0.5	ND	µg/L	5,050	8260B
VOAs	Naphthalene	<2.5	ND	µg/L	5,050	8260B
VOAs	n-Butylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	Nitrobenzene	<5	ND	µg/L	5,050	8260B
VOAs	n-Propylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	o-Xylene	<0.5	ND	µg/L	5,050	8260B
VOAs	Pentachloroethane	<0.5	ND	µg/L	5,050	8260B
VOAs	p-isopropyltoluene	<0.5	ND	µg/L	5,050	8260B
VOAs	Propionitrile	<10	ND	µg/L	5,050	8260B
VOAs	sec-Butylbenzene	<0.5	ND	µg/L	5,050	8260B
VOAs	Styrene	<0.5	ND	µg/L	5,050	8260B
VOAs	tert-Butylbenzene	<1	ND	µg/L	5,050	8260B
VOAs	Tetrachloroethene	<0.5	ND	µg/L	5,050	8260B
VOAs	Tetrahydrofuran	<2.5	ND	µg/L	5,050	8260B
VOAs	Toluene	<0.5	ND	µg/L	5,050	8260B

**Sample: AB20284****Customer #:** 1004548**Facility ID:****County:** Greene**Collector:** SEAN COUNIHAN**Entry Point:****Sample Comment:** Ground water from SB-2**Site:** Smith Park**Sample Reference ID:****Affiliation:** ESP**Collect Date:** 5/11/2010 12:49:00PM

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
VOAs	Total Xylenes	<1	ND	µg/L	5,050	8260B
VOAs	trans-1,2-Dichloroethene	<0.5	ND	µg/L	5,050	8260B
VOAs	trans-1,3-Dichloropropene	<0.5	ND	µg/L	5,050	8260B
VOAs	trans-1,4-Dichloro-2-butene	<0.5	ND	µg/L	5,050	8260B
VOAs	Trichloroethene	<0.5	ND	µg/L	5,050	8260B
VOAs	Trichlorofluoromethane	<2.5	ND	µg/L	5,050	8260B
VOAs	Vinyl Chloride	<0.5	ND	µg/L	5,050	8260B

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S Environmental Protection Agency.

Chris Boldt, Laboratory Manager  
Environmental Services Program  
Field Services Division

**Qualifier Descriptions**

- |  |   |
|--|---|
| 01 Improper collection method                            | 02 Improper preservation                            |
| 03 Exceeded holding time                                 | 04 Analyzed by Contract Laboratory                  |
| 05 Estimated value, detected below PQL                   | 06 Estimated value, QC data outside limits          |
| 07 Estimated value, analyte outside calibration range    | 08 Analyte present in blank at > 1/2 reported value |
| 09 Sample was diluted during analysis                    | 10 Laboratory error                                 |
| 11 Estimated value, matrix interference                  | 12 Insufficient quantity                            |
| 13 Estimated value, true result is > reported value      | 14 Estimated value, non-homogeneous sample          |
| 15 No Result - Failed Quality Controls Requirements      | 16 Not analyzed - related analyte not detected      |
| 17 Results in dry weight                                 | 18 Sample pH is outside the acceptable range        |
| 19 Estimated value                                       | 20 Not analyzed - Instrument failure                |
| 21 No result - spectral interference                     | 22 pH was performed at the Laboratory               |
| 23 Contract Lab specific qualifier - see sample comments | 24 No result - matrix interference                  |
| 25 No Result: Excessive Chlorination                     | 25 No Result: Excessive Dechlorination              |
| ND Not detected at reported value                        |   |

## **APPENDIX C**

### **Field Notes/ Soil Boring Logs**

Smith Park Site

Greene County

Springfield, Missouri

SB 1 @ Smith Park Composite of 0-3 ft  
Collected @ 1339 Sample # 1004534  
SU 1 S.S. collected @ 1350

Sample # 1004535  
SU 2 SS Collected @ 1354

Sample # 1004536

SB 1 was to be a ground  
water source - Probe was stopped at  
11 feet Refusal - No water.

Will move probe to different location  
in hopes of finding water.

SB 2 near creek in front of ~~Picnic~~  
area 14 feet to refusal slight amount  
of water in bottom, will let sit overnight  
to charge -

Smith Park in Springfield is  
back ground site on subsurface  
mine @ 1315 two Surface & ground water  
Near South of Creek Across from  
Weller Ave. and large ~~picnic~~ picnic  
area.



Smith Park 5/11/10

SBD Total Depth 14.6

Depth to water 8.5

Sample collected @ 1249 # 1004548

Temp 18.8°C

Cond 659  $\mu$ s

pH 7.33

Trip Blank collected @ 0600 on 5/10/10

Sample # 1004521

ST #	<b>SOIL BORING LOG</b>		BORING # <i>SB-1</i>
R #	INVESTIGATOR <i>Sean Cunningham</i> <del>Blade Swank</del>	DRILLER <i>Sean</i>	
SITE NAME <i>Smith Park</i>	DRILLING METHOD <i>Direct Push</i>	SAMPLING METHOD <i>Solid Tube (with liner)</i>	
SITE ADDRESS	BOREHOLE DIA. 2 inches	SAMPLING INTERVAL Continuous core	
DATE OF BORING <i>5/10/10</i>	TOTAL BORING DEPTH <i>11 ft</i>	STATIC WATER LEVEL	

### LITHOLOGIC DESCRIPTION AND REMARKS

WELL CONST	DEPTH (~Ft.)	COLOR <sup>1)</sup>	TEXTURE <sup>2)</sup>	OBSERVATIONS	PID ppm	SAMPLE I.D.
	0-1	<i>Brown</i>			<i>0</i>	<i>Soil Composite of 0-3 foot section</i>
	1-2	<i>Brown</i>			<i>0</i>	
	2-3	<i>grey</i>		<i>Rocky</i>	<i>0</i>	
	3-4	<i>Red</i>		<i>Rocky</i>	<i>0</i>	
	4-5	<i>grey/k</i>			<i>0</i>	
	5-6				—	<i>Direct push for temp monitoring well. No sample taken.</i>
	6-7				—	
	7-8				—	
	8-9				—	
	9-10				—	
	10-11				—	
	11-12				—	
	12-13				—	
	13-14				—	
	14-15				—	
	15-16				—	
	16-17				—	
	17-18				—	
	18-19				—	
	19-20				—	
	20-21				—	
	21-22				—	
	22-23				—	
	24				—	
	25				—	
	26				—	
	27				—	
	28				—	
	29				—	
	30				—	

1) CL= clay; SLT= silt; SND= sand; LM= loam.


### COMMENTS:

Calibration made on 02/10/06 @ 0900 hrs. to 98.0 ppm isobutylene in air (0 = 0.0, 98.0, 98.0), 1230 hrs. check (0 = 0.0, 98.0, 98.0).

Sch. 80 PVC PIEZOMETER SCREEN= WATER TABLE=

ST #	<b>SOIL BORING LOG</b>	BORING # <i>SB-2</i>
R #	INVESTIGATOR <i>Sean Counihan</i>	DRILLER <i>Brad Swank</i>
SITE NAME <i>Smith Park</i>	DRILLING METHOD Direct Push	SAMPLING METHOD Solid Tube (with liner)
SITE ADDRESS	BOREHOLE DIA. 2 inches	SAMPLING INTERVAL Continuous core
DATE OF BORING <i>5/10/10</i>	TOTAL BORING DEPTH <i>14 ft</i>	STATIC WATER LEVEL <i>8.5 ft 5/11/10</i>

### LITHOLOGIC DESCRIPTION AND REMARKS

WELL CONST	DEPTH (~Ft.)	COLOR <sup>1)</sup>	TEXTURE <sup>2)</sup>	OBSERVATIONS	PID ppm	SAMPLE I.D.
	0-1				—	<i>Soil No sample taken collected</i>  <i>Well made just for ground water sample</i>  <i>temp monitoring well</i>
1-2					—	
2-3					—	
3-4					—	
4-5					—	
5-6					—	
6-7					—	
7-8					—	
8-9					—	
9-10					—	
10-11					—	<i>Refusal 14 ft Deep</i>
11-12					—	
12-13					—	
13-14					—	
14-15					—	
15-16					—	<i>Small amount of water encountered will cap and leave to charge over night..</i>
16-17					—	
17-18					—	
18-19					—	
19-20					—	
20-21					—	<i>Will collect sample on 5/11</i>
21-22					—	
22-23					—	
24					—	
25					—	
26					—	
27					—	
28					—	
29					—	
30					—	

1) CL= clay; SLT= silt; SND= sand; LM= loam.

### COMMENTS:

*SMC*  
 Calibration made on 05/10/06 @ 0900 hrs. to 98.0 ppm isobutylene in air (0= 0.0, 98.0= 98.0), 1230 hrs check (0= 0.0, 98.0= 98.0).

Sch. 80 PVC PIEZOMETER SCREEN=  WATER TABLE= 

## **APPENDIX D**

**Chain of Custody Forms**  
Smith Park Incorporated Site  
Greene County  
Springfield, Missouri



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD

Page 1 of 2

LABORATORY ORDER ID: 100512003

B20

Collector's Name: Sean Counihan								Description of Shipment			
(Please Print)								Shipped-Carrier:			
Affiliation: <u>ESP</u> KCRO NERO SERO SIRO SWRO WPP								Tape sealed and initialed			
(circle one) DGLS HWP Other:								x Hand Delivered No. Of Containers: 15			
Sample Number	Sample Collected	Analyses						Sample Type	For Lab Use Only		
								Matrix	Container	Preserved	
11 1004534 (Sample A)	Date: 5/10/10	Total metals (As, Cd, Cr, Cu, Pb, Ni, Zn) (TCLP Where Applicable) cyanide Hexavalent Cr.						Grab <input checked="" type="checkbox"/> Composite Modified	Water 3 Soil Organic Sludge Other:	1L amber Cubitainer 2 oz glass Nalgene 2 8 oz glass 1L VOA vial 500mL Encore 250mL Other:	120 mL H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> NaOH HCL 4° C (None) Disinfected Other
For Lab Use Only AP20281	Time: 1339	D.O	Flow	pH	Spec. Cond.	Temp.	Other:				
12 1004535 (Sample B)	Date: 5/10/10	Total metals (As, Cd, Cr, Cu, Pb, Ni, Zn) (TCLP Where Applicable) cyanide Hexavalent Cr.						Grab <input checked="" type="checkbox"/> Composite Modified	Water 3 Soil Organic Sludge Other:	1L amber Cubitainer 2 oz glass Nalgene 2 8 oz glass 1L VOA vial 500mL Encore 250mL Other:	120 mL H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> NaOH HCL 4° C (None) Disinfected Other
For Lab Use Only AP20282	Time: 1350	D.O	Flow	pH	Spec. Cond.	Temp.	Other:				
13 1004536 (Sample C)	Date: 5/10/10	Total metals (As, Cd, Cr, Cu, Pb, Ni, Zn) (TCLP Where Applicable) cyanide Hexavalent Cr.						Grab <input checked="" type="checkbox"/> Composite Modified	Water 3 Soil Organic Sludge Other:	1L amber Cubitainer 2 oz glass Nalgene 2 8 oz glass 1L VOA vial 500mL Encore 250mL Other:	120 mL H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> NaOH HCL 4° C (None) Disinfected Other
For Lab Use Only AP20283	Time: 1354	D.O	Flow	pH	Spec. Cond.	Temp.	Other:				
14 1004548 (Sample D)	Date: 5/11/10	Total metals VOA (TCLP Where Applicable) Dissolved metals (As, Cd, Cr, Cu, Pb, Ni, Zn) cyanide, Hexavalent Cr.						Grab <input checked="" type="checkbox"/> Composite Modified	Water 3 Soil Organic Sludge Other:	1L amber Cubitainer 2 oz glass Nalgene 2 8 oz glass 1L VOA vial 500mL Encore 250mL Other:	120 mL H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> NaOH HCL 4° C (None) Disinfected Other
For Lab Use Only AP20284	Time: 1249	D.O	Flow	pH 7.33	Spec. Cond. 659us	Temp. 18.8°C	Other:				
Relinquished By: <i>[Signature]</i>				Received By: <i>[Signature]</i>				Date: 5-11-10		Time: 1605	
Relinquished By:				Received By:				Date:		Time:	
Relinquished By:				Received By:				Date:		Time:	



Sample I.D. Letter	Site Description				
<b>Sample A</b> 1004534	Facility ID:	Site/Study Name: Smith Park	County: Greene	LDPR Code: <b>FEP A5</b>	Job Code: <b>NJ07HIL L</b>
	Sample Comment (briefly describe where and how the sample was collected, station number, sample type, etc.): Soil boring SB-1				
	GPS Coordinates (Record Coordinates in UTM Zone 15 NAD 83 Only):		Accuracy	(check one)	Sample Reference ID:
	X Easting	Y Northing		EPE (meters) PDOP	
<b>Sample B</b> 1004535	Facility ID:	Site/Study Name: Smith Park	County: Greene	LDPR Code: <b>FEP A5</b>	Job Code: <b>NJ07HIL L</b>
	Sample Comment (briefly describe where and how the sample was collected, station number, sample type, etc.): S. S. 1 from S. U. 1				
	GPS Coordinates (Record Coordinates in UTM Zone 15 NAD 83 Only):		Accuracy	(check one)	Sample Reference ID:
	X Easting	Y Northing		EPE (meters) PDOP	
<b>Sample C</b> 1004536	Facility ID:	Site/Study Name: Smith Park	County: Greene	LDPR Code: <b>FEP A5</b>	Job Code: <b>NJ07HIL L</b>
	Sample Comment (briefly describe where and how the sample was collected, station number, sample type, etc.): S. S. 2 from S. U. 2				
	GPS Coordinates (Record Coordinates in UTM Zone 15 NAD 83 Only):		Accuracy	(check one)	Sample Reference ID:
	X Easting	Y Northing		EPE (meters) PDOP	
<b>Sample D</b> 1004548	Facility ID:	Site/Study Name: Smith Park	County: Greene	LDPR Code: <b>FEP A5</b>	Job Code: <b>NJ07HIL L</b>
	Sample Comment (briefly describe where and how the sample was collected, station number, sample type, etc.): Ground water from SB-2				
	GPS Coordinates (Record Coordinates in UTM Zone 15 NAD 83 Only):		Accuracy	(check one)	Sample Reference ID:
	X Easting	Y Northing		EPE (meters) PDOP	

## REMARKS:

Use method 7196 for hexavalent chromium samples, and method 8260B for ground water samples.

Request Separate Report enc

## **TABLES**

Smith Park Site  
Greene County  
Springfield, Missouri

Table 1

Smith Park Site, Springfield, Greene County, Missouri

Water Sample Collection Data						
Well Identification	Date Collected	Sample Number	Time Collected	Well Depth (ft.)	Static Water Level (ft.)	Sample Description
Smith Park SB-1	N/A	N/A	N/A	11'	N/A	N/A
Smith Park SB-2	05/11/2010	1004548	1249	14'	8.5'	Rust colored/Turbid

Table 2

Smith Park Site, Springfield, Greene County, Missouri

Soil Sample Collection Data			
Sample Number	Date Collected	Time Collected	Location Collected/Description
1004534	5/10/10	1339	Smith Park Soil Boring = SB-1
1004535	5/10/10	1350	Surface Soil from Smith Park SU1 = SS1
1004536	5/10/10	1354	Surface Soil from Smith Park SU2 = SS2

# Drinking Water Branch

## Chem/Rad Sample Results

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<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	95-G232	<b>Collection Date :</b>	09-15-1995

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	502.2	Y	MRL	2.000000000 UG/L			
2210	CHLOROMETHANE	502.2	Y	MRL	2.500000000 UG/L			
2212	DICHLORODIFLUOROMETHANE	502.2	Y	MRL	2.500000000 UG/L			
2214	BROMOMETHANE	502.2			0E-9			
2216	CHLOROETHANE	502.2	Y	MRL	2.500000000 UG/L			
2218	TRICHLOROFLUOROMETHANE	502.2	Y	MRL	2.500000000 UG/L			
2224	TRANS-1,3-DICHLOROPROPENE	502.2	Y	MRL	1.000000000 UG/L			
2228	CIS-1,3-DICHLOROPROPENE	502.2	Y	MRL	2.000000000 UG/L			
2246	HEXACHLOROBUTADIENE	502.2	Y	MRL	1.000000000 UG/L			
2248	NAPHTHALENE	502.2	Y	MRL	2.000000000 UG/L			
2251	METHYL TERT-BUTYL ETHER	502.2	Y	MRL	5.000000000 UG/L			
2378	1,2,4-TRICHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2380	CIS-1,2-DICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2408	DIBROMOMETHANE	502.2	Y	MRL	1.000000000 UG/L			
2410	1,1-DICHLOROPROPENE	502.2	Y	MRL	1.000000000 UG/L			
2412	1,3-DICHLOROPROPANE	502.2	Y	MRL	2.000000000 UG/L			
2414	1,2,3-TRICHLOROPROPANE	502.2	Y	MRL	1.000000000 UG/L			
2416	2,2-DICHLOROPROPANE	502.2	Y	MRL	1.000000000 UG/L			
2418	1,2,4-TRIMETHYLBENZENE	502.2	Y	MRL	1.000000000 UG/L			
2420	1,2,3-TRICHLOROBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2422	N-BUTYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2424	1,3,5-TRIMETHYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2426	TERT-BUTYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2428	SEC-BUTYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2430	BROMOCHLOROMETHANE	502.2	Y	MRL	1.000000000 UG/L			
2931	1,2-DIBROMO-3-CHLOROPROPANE	502.2	Y	MRL	5.000000000 UG/L			
2941	CHLOROFORM	502.2	Y	MRL	0.500000000 UG/L			
2942	BROMOFORM	502.2	Y	MRL	0.500000000 UG/L			
2943	BROMODICHLOROMETHANE	502.2	Y	MRL	0.500000000 UG/L			
2944	DIBROMOCHLOROMETHANE	502.2	Y	MRL	0.500000000 UG/L			
2946	ETHYLENE DIBROMIDE	502.2	Y	MRL	2.000000000 UG/L			
2955	XYLENES, TOTAL	502.2	Y	MRL	0.500000000 UG/L			
2964	DICHLOROMETHANE	502.2	Y	MRL	0.500000000 UG/L			
2965	O-CHLOROTOLUENE	502.2	Y	MRL	2.000000000 UG/L			
2966	P-CHLOROTOLUENE	502.2	Y	MRL	2.000000000 UG/L			
2967	M-DICHLOROBENZENE	502.2	Y	MRL	1.000000000 UG/L			
2968	O-DICHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2969	P-DICHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2976	VINYL CHLORIDE	502.2	Y	MRL	0.500000000 UG/L			
2977	1,1-DICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2978	1,1-DICHLOROETHANE	502.2	Y	MRL	1.000000000 UG/L			
2979	TRANS-1,2-DICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2980	1,2-DICHLOROETHANE	502.2	Y	MRL	0.500000000 UG/L			
2981	1,1,1-TRICHLOROETHANE	502.2	Y	MRL	0.500000000 UG/L			
2982	CARBON TETRACHLORIDE	502.2	Y	MRL	0.500000000 UG/L			



2983	1,2-DICHLOROPROPANE	502.2	Y	MRL	0.500000000 UG/L			
2984	TRICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2985	1,1,2-TRICHLOROETHANE	502.2	Y	MRL	0.500000000 UG/L			
2986	1,1,1,2-TETRACHLOROETHANE	502.2	Y	MRL	1.000000000 UG/L			
2987	TETRACHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2988	1,1,2,2-TETRACHLOROETHANE	502.2	Y	MRL	1.000000000 UG/L			
2989	CHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2990	BENZENE	502.2	Y	MRL	0.500000000 UG/L			
2991	TOLUENE	502.2	Y	MRL	0.500000000 UG/L			
2992	ETHYLBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2993	BROMOBENZENE	502.2	Y	MRL	1.000000000 UG/L			
2994	ISOPROPYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2995	M-XYLENE	502.2			0E-9	0 UG/L		
2996	STYRENE	502.2	Y	MRL	0.500000000 UG/L			
2997	O-XYLENE	502.2			0E-9	0 UG/L		
2998	N-PROPYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			

**Total Number of Records Fetched = 61**

# Drinking Water Branch

## Chem/Rad Sample Results

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	98-Z241	<b>Collection Date :</b>	11-24-1998

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
1002	ALUMINUM	200.7			0E-9	15.8 UG/L		
1005	ARSENIC	3113B	Y	MRL	1.000000000 UG/L			
1010	BARIUM	200.7			0E-9	76.2 UG/L		
1015	CADMIUM	200.7	Y	MRL	1.000000000 UG/L			
1016	CALCIUM	200.7			0E-9	35.6 MG/L		
1017	CHLORIDE	4500 CL-E	Y	MRL	5.000000000 MG/L			
1020	CHROMIUM	200.7			0E-9	2.13 UG/L		
1022	COPPER, FREE	200.7			0E-9	14 UG/L		
1024	CYANIDE	335.2	Y	MRL	0.100000000 MG/L			
1025	FLUORIDE	340.2	Y	MRL	0.200000000 MG/L			
1030	LEAD	3113B	Y	MRL	4.000000000 UG/L			
1031	MAGNESIUM	200.7			0E-9	15.9 MG/L		
1032	MANGANESE	200.7			0E-9	3.73 UG/L		
1035	MERCURY	245.2	Y	MRL	0.200000000 UG/L			
1036	NICKEL	200.7			0E-9	8.36 UG/L		
1042	POTASSIUM	200.7			0E-9	1.1 MG/L		
1045	SELENIUM	3113B	Y	MRL	2.000000000 UG/L			
1050	SILVER	200.7	Y	MRL	5.000000000 UG/L			
1052	SODIUM	200.7			0E-9	2.07 MG/L		
1055	SULFATE	375.2			0E-9	15.1 MG/L		
1067	ALKALINITY, CACO3 STABILITY	2320B			0E-9	142 MG/L		
1074	ANTIMONY, TOTAL	3113B	Y	MRL	3.000000000 UG/L			
1075	BERYLLIUM, TOTAL	200.7	Y	MRL	1.000000000 UG/L			
1082	IRON, DISSOLVED	200.7	Y	MRL	20.000000000 UG/L			
1085	THALLIUM, TOTAL	3113B	Y	MRL	1.000000000 UG/L			
1095	ZINC	200.7			0E-9	28.6 UG/L		
1925	PH	150.1			0E-9	6.81 PH		
1930	TDS	160.1			0E-9	191 MG/L		

**Total Number of Records Fetched = 28**

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## Chem/Rad Sample Results

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	98-Z323	<b>Collection Date :</b>	11-24-1998

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

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Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	502.2	Y	MRL	2.000000000 UG/L			
2210	CHLOROMETHANE	502.2	Y	MRL	2.500000000 UG/L			
2212	DICHLOROFLUOROMETHANE	502.2	Y	MRL	200.000000000 UG/L			
2214	BROMOMETHANE	502.2	Y	MRL	9.000000000 UG/L			
2216	CHLOROETHANE	502.2	Y	MRL	2.500000000 UG/L			
2218	TRICHLOROFLUOROMETHANE	502.2	Y	MRL	2.500000000 UG/L			
2224	TRANS-1,3-DICHLOROPROPENE	502.2	Y	MRL	1.000000000 UG/L			
2228	CIS-1,3-DICHLOROPROPENE	502.2	Y	MRL	2.000000000 UG/L			
2246	HEXACHLOROBUTADIENE	502.2	Y	MRL	1.000000000 UG/L			
2248	NAPHTHALENE	502.2	Y	MRL	20.000000000 UG/L			
2251	METHYL TERT-BUTYL ETHER	502.2	Y	MRL	5.000000000 UG/L			
2378	1,2,4-TRICHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2380	CIS-1,2-DICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2408	DIBROMOMETHANE	502.2	Y	MRL	1.000000000 UG/L			
2410	1,1-DICHLOROPROPENE	502.2	Y	MRL	1.000000000 UG/L			
2412	1,3-DICHLOROPROPANE	502.2	Y	MRL	2.000000000 UG/L			
2414	1,2,3-TRICHLOROPROPANE	502.2	Y	MRL	1.000000000 UG/L			
2416	2,2-DICHLOROPROPANE	502.2	Y	MRL	1.000000000 UG/L			
2418	1,2,4-TRIMETHYLBENZENE	502.2	Y	MRL	1.000000000 UG/L			
2420	1,2,3-TRICHLOROBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2422	N-BUTYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2424	1,3,5-TRIMETHYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2426	TERT-BUTYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2428	SEC-BUTYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2430	BROMOCHLOROMETHANE	502.2	Y	MRL	1.000000000 UG/L			
2931	1,2-DIBROMO-3-CHLOROPROPANE	502.2	Y	MRL	5.000000000 UG/L			
2941	CHLOROFORM	502.2			0E-9	0.6 UG/L		
2942	BROMOFORM	502.2	Y	MRL	0.500000000 UG/L			
2943	BROMODICHLOROMETHANE	502.2			0E-9	0.6 UG/L		
2944	DIBROMOCHLOROMETHANE	502.2	Y	MRL	0.500000000 UG/L			
2946	ETHYLENE DIBROMIDE	502.2	Y	MRL	2.000000000 UG/L			
2955	XYLENES, TOTAL	502.2	Y	MRL	0.500000000 UG/L			
2964	DICHLOROMETHANE	502.2	Y	MRL	0.500000000 UG/L			
2965	O-CHLOROTOLUENE	502.2	Y	MRL	2.000000000 UG/L			
2966	P-CHLOROTOLUENE	502.2	Y	MRL	2.000000000 UG/L			
2967	M-DICHLOROBENZENE	502.2	Y	MRL	1.000000000 UG/L			
2968	O-DICHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2969	P-DICHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2976	VINYL CHLORIDE	502.2	Y	MRL	0.500000000 UG/L			
2977	1,1-DICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2978	1,1-DICHLOROETHANE	502.2	Y	MRL	1.000000000 UG/L			
2979	TRANS-1,2-DICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2980	1,2-DICHLOROETHANE	502.2	Y	MRL	0.500000000 UG/L			
2981	1,1,1-TRICHLOROETHANE	502.2	Y	MRL	0.500000000 UG/L			
2982	CARBON TETRACHLORIDE	502.2	Y	MRL	0.500000000 UG/L			
2983	1,2-DICHLOROPROPANE	502.2	Y	MRL	0.500000000 UG/L			
2984	TRICHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			

2985	1,1,2-TRICHLOROETHANE	502.2	Y	MRL	0.500000000 UG/L			
2986	1,1,1,2-TETRACHLOROETHANE	502.2	Y	MRL	1.000000000 UG/L			
2987	TETRACHLOROETHYLENE	502.2	Y	MRL	0.500000000 UG/L			
2988	1,1,2,2-TETRACHLOROETHANE	502.2	Y	MRL	1.000000000 UG/L			
2989	CHLOROBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2990	BENZENE	502.2	Y	MRL	0.500000000 UG/L			
2991	TOLUENE	502.2	Y	MRL	0.500000000 UG/L			
2992	ETHYLBENZENE	502.2	Y	MRL	0.500000000 UG/L			
2993	BROMOBENZENE	502.2	Y	MRL	1.000000000 UG/L			
2994	ISOPROPYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			
2996	STYRENE	502.2	Y	MRL	0.500000000 UG/L			
2998	N-PROPYLBENZENE	502.2	Y	MRL	2.000000000 UG/L			

**Total Number of Records Fetched = 59**

# Drinking Water Branch

## Chem/Rad Sample Results

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	0143671	<b>Collection Date :</b>	11-19-2001

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

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Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYL TOLUENE	524.2	Y	MRL	2.000000000 UG/L			
2210	CHLOROMETHANE	524.2	Y	MRL	10.000000000 UG/L			
2212	DICHLORODIFLUOROMETHANE	524.2	Y	MRL	2.500000000 UG/L			
2214	BROMOMETHANE	524.2	Y	MRL	9.000000000 UG/L			
2216	CHLOROETHANE	524.2	Y	MRL	5.000000000 UG/L			
2218	TRICHLOROFLUOROMETHANE	524.2	Y	MRL	2.500000000 UG/L			
2224	TRANS-1,3-DICHLOROPROPENE	524.2	Y	MRL	1.000000000 UG/L			
2228	CIS-1,3-DICHLOROPROPENE	524.2	Y	MRL	2.000000000 UG/L			
2246	HEXACHLOROBUTADIENE	524.2	Y	MRL	1.000000000 UG/L			
2248	NAPHTHALENE	524.2	Y	MRL	2.000000000 UG/L			
2251	METHYL TERT-BUTYL ETHER	524.2	Y	MRL	5.000000000 UG/L			
2378	1,2,4-TRICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2380	CIS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L			
2408	DIBROMOMETHANE	524.2	Y	MRL	1.000000000 UG/L			
2410	1,1-DICHLOROPROPENE	524.2	Y	MRL	1.000000000 UG/L			
2412	1,3-DICHLOROPROPANE	524.2	Y	MRL	2.000000000 UG/L			
2414	1,2,3-TRICHLOROPROPANE	524.2	Y	MRL	1.000000000 UG/L			
2416	2,2-DICHLOROPROPANE	524.2	Y	MRL	1.000000000 UG/L			
2418	1,2,4-TRIMETHYLBENZENE	524.2	Y	MRL	1.000000000 UG/L			
2420	1,2,3-TRICHLOROBENZENE	524.2	Y	MRL	2.000000000 UG/L			
2422	N-BUTYLBENZENE	524.2	Y	MRL	2.000000000 UG/L			
2424	1,3,5-TRIMETHYLBENZENE	524.2	Y	MRL	2.000000000 UG/L			
2426	TERT-BUTYLBENZENE	524.2	Y	MRL	2.000000000 UG/L			
2428	SEC-BUTYLBENZENE	524.2	Y	MRL	2.000000000 UG/L			
2430	BROMOCHLOROMETHANE	524.2	Y	MRL	1.000000000 UG/L			
2931	1,2-DIBROMO-3-CHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2941	CHLOROFORM	524.2	Y	MRL	0.500000000 UG/L			
2942	BROMOFORM	524.2	Y	MRL	0.500000000 UG/L			
2943	BROMODICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2944	DIBROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2946	ETHYLENE DIBROMIDE	524.2	Y	MRL	0.100000000 UG/L			
2955	XYLENES, TOTAL	524.2	Y	MRL	0.500000000 UG/L			
2964	DICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2965	O-CHLOROTOLUENE	524.2	Y	MRL	2.000000000 UG/L			
2966	P-CHLOROTOLUENE	524.2	Y	MRL	2.000000000 UG/L			
2967	M-DICHLOROBENZENE	524.2	Y	MRL	1.000000000 UG/L			
2968	O-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2969	P-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2976	VINYL CHLORIDE	524.2	Y	MRL	0.500000000 UG/L			
2977	1,1-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L			
2978	1,1-DICHLOROETHANE	524.2	Y	MRL	1.000000000 UG/L			
2979	TRANS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L			
2980	1,2-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2981	1,1,1-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2982	CARBON TETRACHLORIDE	524.2	Y	MRL	0.500000000 UG/L			
2983	1,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			



2984	TRICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L			
2985	1,1,2-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2986	1,1,1,2-TETRACHLOROETHANE	524.2	Y	MRL	1.000000000 UG/L			
2987	TETRACHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L			
2988	1,1,2,2-TETRACHLOROETHANE	524.2	Y	MRL	1.000000000 UG/L			
2989	CHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2990	BENZENE	524.2	Y	MRL	0.500000000 UG/L			
2991	TOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2992	ETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2993	BROMOBENZENE	524.2	Y	MRL	1.000000000 UG/L			
2994	ISOPROPYLBENZENE	524.2	Y	MRL	2.000000000 UG/L			
2996	STYRENE	524.2	Y	MRL	0.500000000 UG/L			
2998	N-PROPYLBENZENE	524.2	Y	MRL	2.000000000 UG/L			

**Total Number of Records Fetched = 59**

# Drinking Water Branch

## Chem/Rad Sample Results

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### Glossary

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	0451426	<b>Collection Date :</b>	11-29-2004

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
0100	TURBIDITY	180.1	Y	MRL	1.000000000 NTU	0 NTU		
1002	ALUMINUM	200.7	Y	MRL	25.000000000 UG/L	0 UG/L		
1005	ARSENIC	200.8	Y	MRL	1.000000000 UG/L	0 UG/L		
1010	BARIIUM	200.7			0E-9	78.4 UG/L		
1015	CADMIUM	200.7	Y	MRL	1.000000000 UG/L	0 UG/L		
1016	CALCIUM	200.7			0E-9	35.6 MG/L		
1017	CHLORIDE	4500 CL-E	Y	MRL	5.000000000 MG/L	0 MG/L		
1020	CHROMIUM	200.7	Y	MRL	2.500000000 UG/L	0 UG/L		
1022	COPPER, FREE	200.7	Y	MRL	10.000000000 UG/L	0 UG/L		
1024	CYANIDE	335.4	Y	MRL	0.010000000 MG/L	0 MG/L		
1025	FLUORIDE	4500F-C			0E-9	0.14 MG/L		
1028	IRON	200.7			0E-9	39.4 UG/L		
1030	LEAD	200.8			0E-9	2.76 UG/L		
1031	MAGNESIUM	200.7			0E-9	17.4 MG/L		
1032	MANGANESE	200.7			0E-9	5.01 UG/L		
1035	MERCURY	200.8	Y	MRL	0.200000000 UG/L	0 UG/L		
1036	NICKEL	200.7	Y	MRL	10.000000000 UG/L	0 UG/L		
1042	POTASSIUM	200.7			0E-9	1.3 MG/L		
1045	SELENIUM	200.8	Y	MRL	5.000000000 UG/L	0 UG/L		
1050	SILVER	200.7	Y	MRL	5.000000000 UG/L	0 UG/L		
1052	SODIUM	200.7			0E-9	2.37 MG/L		
1055	SULFATE	375.2			0E-9	12.8 MG/L		
1074	ANTIMONY, TOTAL	200.8	Y	MRL	1.000000000 UG/L	0 UG/L		
1075	BERYLLIUM, TOTAL	200.7	Y	MRL	1.000000000 UG/L	0 UG/L		
1085	THALLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L	0 UG/L		
1095	ZINC	200.7	Y	MRL	10.000000000 UG/L	0 UG/L		
1916	HARDNESS, CARBONATE	2340B			0E-9	161 MG/L		
1925	PH	150.1			0E-9	7.91 PH		
1927	ALKALINITY, TOTAL	310.2			0E-9	137 MG/L		
1930	TDS	160.1			0E-9	168 MG/L		

Total Number of Records Fetched = 30

# Drinking Water Branch

## Chem/Rad Sample Results

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	0451953	<b>Collection Date :</b>	11-29-2004

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

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Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2210	CHLOROMETHANE	524.2	Y	MRL	10.000000000 UG/L	0 UG/L		
2212	DICHLORODIFLUOROMETHANE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2214	BROMOMETHANE	524.2	Y	MRL	2.500000000 UG/L	0 UG/L		
2216	CHLOROETHANE	524.2	Y	MRL	5.000000000 UG/L	0 UG/L		
2218	TRICHLOROFLUOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2224	TRANS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2228	CIS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2246	HEXACHLOROBUTADIENE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2248	NAPHTHALENE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2251	METHYL TERT-BUTYL ETHER	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2378	1,2,4-TRICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2380	CIS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2408	DIBROMOMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2410	1,1-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2412	1,3-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2414	1,2,3-TRICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2416	2,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2418	1,2,4-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2420	1,2,3-TRICHLOROBENZENE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2422	N-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2424	1,3,5-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2426	TERT-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2428	SEC-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2430	BROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2931	1,2-DIBROMO-3-CHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2941	CHLOROFORM	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2942	BROMOFORM	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2943	BROMODICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2944	DIBROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2946	ETHYLENE DIBROMIDE	524.2	Y	MRL	0.100000000 UG/L	0 UG/L		
2955	XYLENES, TOTAL	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2963	XYLENE, META AND PARA	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2964	DICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2965	O-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2966	P-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2967	M-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2968	O-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2969	P-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2976	VINYL CHLORIDE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2977	1,1-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2978	1,1-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2979	TRANS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2980	1,2-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2981	1,1,1-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2982	CARBON TETRACHLORIDE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		

2983	1,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2984	TRICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2985	1,1,2-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2986	1,1,1,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2987	TETRACHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2988	1,1,2,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2989	CHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2990	BENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2991	TOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2992	ETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2993	BROMOBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2994	ISOPROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2996	STYRENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2997	O-XYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2998	N-PROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		

**Total Number of Records Fetched = 61**

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<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	071021278-01	<b>Collection Date :</b>	11-06-2007

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
0100	TURBIDITY	180.1	Y	MRL	1.000000000 NTU	0 NTU		
1002	ALUMINUM	200.8	Y	MRL	25.000000000 UG/L	0 UG/L		
1005	ARSENIC	200.8	Y	MRL	1.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1010	BARIUM	200.8			0E-9	65.5 UG/L	01-01-2005	12-31-2007
1015	CADMIUM	200.8	Y	MRL	1.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1016	CALCIUM	200.7			0E-9	34.2 MG/L		
1017	CHLORIDE	4500 CL-E	Y	MRL	5.000000000 MG/L	0 MG/L		
1020	CHROMIUM	200.8	Y	MRL	2.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1022	COPPER, FREE	200.8	Y	MRL	10.000000000 UG/L	0 UG/L		
1024	CYANIDE	335.4	Y	MRL	0.010000000 MG/L	0 MG/L	01-01-2005	12-31-2007
1025	FLUORIDE	4500F-C			0E-9	0.29 MG/L	01-01-2005	12-31-2007
1028	IRON	200.7	Y	MRL	5.000000000 UG/L	0 UG/L		
1030	LEAD	200.8	Y	MRL	10.000000000 UG/L	0 UG/L		
1031	MAGNESIUM	200.7			0E-9	16.2 MG/L		
1032	MANGANESE	200.8			0E-9	3.64 UG/L		
1035	MERCURY	200.8	Y	MRL	0.200000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1036	NICKEL	200.8	Y	MRL	10.000000000 UG/L	0 UG/L		
1042	POTASSIUM	200.7			0E-9	1.06 MG/L		
1045	SELENIUM	200.8	Y	MRL	5.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1050	SILVER	200.8	Y	MRL	5.000000000 UG/L	0 UG/L		
1052	SODIUM	200.7			0E-9	1.75 MG/L		
1055	SULFATE	375.2			0E-9	8.73 MG/L		
1067	ALKALINITY, CACO3 STABILITY	310.2			0E-9	137 MG/L		
1074	ANTIMONY, TOTAL	200.8	Y	MRL	1.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1075	BERYLLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1085	THALLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
1095	ZINC	200.8	Y	MRL	10.000000000 UG/L	0 UG/L		
1916	HARDNESS, CARBONATE	2340B			0E-9	152 MG/L		
1925	PH	150.1			0E-9	7.81 PH		
1930	TDS	160.1			0E-9	159 MG/L		

Total Number of Records Fetched = 30



# Drinking Water Branch

## Chem/Rad Sample Results

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	071021559-01	<b>Collection Date :</b>	11-06-2007

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2210	CHLOROMETHANE	524.2	Y	MRL	10.000000000 UG/L	0 UG/L		
2212	DICHLORODIFLUOROMETHANE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2214	BROMOMETHANE	524.2	Y	MRL	2.500000000 UG/L	0 UG/L		
2216	CHLOROETHANE	524.2	Y	MRL	5.000000000 UG/L	0 UG/L		
2218	TRICHLOROFLUOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2224	TRANS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2228	CIS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2246	HEXACHLOROBUTADIENE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2248	NAPHTHALENE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2251	METHYL TERT-BUTYL ETHER	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2378	1,2,4-TRICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2380	CIS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2408	DIBROMOMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2410	1,1-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2412	1,3-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2414	1,2,3-TRICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2416	2,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2418	1,2,4-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2420	1,2,3-TRICHLOROBENZENE	524.2	Y	MRL	1.000000000 UG/L	0 UG/L		
2422	N-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2424	1,3,5-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2426	TERT-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2428	SEC-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2430	BROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2931	1,2-DIBROMO-3-CHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2941	CHLOROFORM	524.2			0E-9	0.72 UG/L		
2942	BROMOFORM	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2943	BROMODICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2944	DIBROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2946	ETHYLENE DIBROMIDE	524.2	Y	MRL	0.100000000 UG/L	0 UG/L		
2955	XYLENES, TOTAL	524.2	Y	MRL	1.000000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2963	XYLENE, META AND PARA	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2964	DICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2965	O-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2966	P-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2967	M-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2968	O-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2969	P-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2976	VINYL CHLORIDE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2977	1,1-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2978	1,1-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2979	TRANS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2980	1,2-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2981	1,1,1-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2982	CARBON TETRACHLORIDE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007

2983	1,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2984	TRICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2985	1,1,2-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2986	1,1,1,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2987	TETRACHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2988	1,1,2,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2989	CHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2990	BENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2991	TOLUENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2992	ETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2993	BROMOBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2994	ISOPROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2996	STYRENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L	01-01-2005	12-31-2007
2997	O-XYLENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		
2998	N-PROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L	0 UG/L		

**Total Number of Records Fetched = 61**

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<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	AB37092	<b>Collection Date :</b>	11-02-2010

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
0100	TURBIDITY	180.1	Y	MRL	1.000000000 NTU			
1002	ALUMINUM	200.8	Y	MRL	10.000000000 UG/L			
1005	ARSENIC	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1010	BARIUM	200.8	N		0E-9 UG/L	73.4 UG/L	01-01-2008	12-31-2010
1015	CADMIUM	200.8	Y	MRL	0.200000000 UG/L		01-01-2008	12-31-2010
1016	CALCIUM	200.7	N		0E-9	35.3 MG/L		
1017	CHLORIDE	4500CL-E	N		0E-9	2.68 MG/L		
1020	CHROMIUM	200.8	N		0E-9 UG/L	1.74 UG/L	01-01-2008	12-31-2010
1022	COPPER, FREE	200.8	N		0E-9 UG/L	1.88 UG/L		
1024	CYANIDE	335.4	Y	MRL	0.003000000 MG/L		01-01-2008	12-31-2010
1025	FLUORIDE	300.0	N		0E-9	0.09 MG/L	01-01-2008	12-31-2010
1028	IRON	200.7	N		0E-9 UG/L	1.37 UG/L		
1030	LEAD	200.8	N		0E-9 UG/L	3.87 UG/L		
1031	MAGNESIUM	200.7	N		0E-9	16.1 MG/L		
1032	MANGANESE	200.8	N		0E-9 UG/L	3.56 UG/L		
1035	MERCURY	200.8	Y	MRL	0.200000000 UG/L		01-01-2008	12-31-2010
1036	NICKEL	200.8	Y	MRL	1.000000000 UG/L			
1042	POTASSIUM	200.7	N		0E-9	1.02 MG/L		
1045	SELENIUM	200.8	Y	MRL	5.000000000 UG/L		01-01-2008	12-31-2010
1050	SILVER	200.8	Y	MRL	1.000000000 UG/L			
1052	SODIUM	200.7	N		0E-9	1.68 MG/L		
1055	SULFATE	375.2	N		0E-9	13.6 MG/L		
1067	ALKALINITY, CACO3 STABILITY	310.2	N		0E-9	129.000 MG/L		
1074	ANTIMONY, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1075	BERYLLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1085	THALLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1095	ZINC	200.8	N		0E-9 UG/L	8.5 UG/L		
1916	HARDNESS, CARBONATE	2340B	N		0E-9	154.000 MG/L		
1925	PH	150.1	N		0E-9 PH	7.7 PH		
1930	TDS	160.1	N		0E-9	156.000 MG/L		

Total Number of Records Fetched = 30

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## Chem/Rad Sample Results

<b>Water System No. :</b>	MO5182222	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	SOLO CUP CO	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	I	<b>Activity Date :</b>	03-23-2011
<b>Lab Sample No. :</b>	AB37561	<b>Collection Date :</b>	11-02-2010

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

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Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2210	CHLOROMETHANE	524.2	Y	MRL	10.000000000 UG/L			
2212	DICHLORODIFLUOROMETHANE	524.2	Y	MRL	1.000000000 UG/L			
2214	BROMOMETHANE	524.2	Y	MRL	2.500000000 UG/L			
2216	CHLOROETHANE	524.2	Y	MRL	5.000000000 UG/L			
2218	TRICHLOROFLUOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2224	TRANS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2228	CIS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2246	HEXACHLOROBUTADIENE	524.2	Y	MRL	1.000000000 UG/L			
2248	NAPHTHALENE	524.2	Y	MRL	1.000000000 UG/L			
2251	METHYL TERT-BUTYL ETHER	524.2	Y	MRL	1.000000000 UG/L			
2378	1,2,4-TRICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2380	CIS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2408	DIBROMOMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2410	1,1-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2412	1,3-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2414	1,2,3-TRICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2416	2,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2418	1,2,4-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2420	1,2,3-TRICHLOROBENZENE	524.2	Y	MRL	1.000000000 UG/L			
2422	N-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2424	1,3,5-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2426	TERT-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2428	SEC-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2430	BROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2931	1,2-DIBROMO-3-CHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2941	CHLOROFORM	524.2	N		0E-9 UG/L	1.33 UG/L		
2942	BROMOFORM	524.2	Y	MRL	0.500000000 UG/L			
2943	BROMODICHLOROMETHANE	524.2	N		0E-9 UG/L	0.58 UG/L		
2944	DIBROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2946	ETHYLENE DIBROMIDE	524.2	Y	MRL	0.100000000 UG/L			
2955	XYLENES, TOTAL	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2963	XYLENE, META AND PARA	524.2	Y	MRL	0.500000000 UG/L			
2964	DICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2965	O-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2966	P-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2967	M-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2968	O-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2969	P-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2976	VINYL CHLORIDE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2977	1,1-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2978	1,1-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2979	TRANS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2980	1,2-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2981	1,1,1-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2982	CARBON TETRACHLORIDE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010

2983	1,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2984	TRICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2985	1,1,2-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2986	1,1,1,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2987	TETRACHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2988	1,1,2,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2989	CHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2990	BENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2991	TOLUENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2992	ETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2993	BROMOBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2994	ISOPROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2996	STYRENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2997	O-XYLENE	524.2	Y	MRL	0.500000000 UG/L			
2998	N-PROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			

**Total Number of Records Fetched = 61**

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<b>Water System No. :</b>	MO5180648	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	KRAFT FOODS GROUP INC	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	A	<b>Activity Date :</b>	01-01-1954
<b>Lab Sample No. :</b>	AB37081	<b>Collection Date :</b>	11-01-2010

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
0100	TURBIDITY	180.1	Y	MRL	1.000000000 NTU			
1002	ALUMINUM	200.8	Y	MRL	10.000000000 UG/L			
1005	ARSENIC	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1010	BARIUM	200.8	N		0E-9 UG/L	31.4 UG/L	01-01-2008	12-31-2010
1015	CADMIUM	200.8	Y	MRL	0.200000000 UG/L		01-01-2008	12-31-2010
1016	CALCIUM	200.7	N		0E-9	36.00 MG/L		
1017	CHLORIDE	4500CL-E	N		0E-9	3.15 MG/L		
1020	CHROMIUM	200.8	N		0E-9 UG/L	1.82 UG/L	01-01-2008	12-31-2010
1022	COPPER, FREE	200.8	N		0E-9 UG/L	31.9 UG/L		
1025	FLUORIDE	300.0	N		0E-9	0.05 MG/L	01-01-2008	12-31-2010
1028	IRON	200.7	N		0E-9 UG/L	12.5 UG/L		
1030	LEAD	200.8	Y	MRL	1.000000000 UG/L			
1031	MAGNESIUM	200.7	N		0E-9	17.3 MG/L		
1032	MANGANESE	200.8	N		0E-9 UG/L	1.44 UG/L		
1035	MERCURY	200.8	Y	MRL	0.200000000 UG/L		01-01-2008	12-31-2010
1036	NICKEL	200.8	Y	MRL	1.000000000 UG/L			
1042	POTASSIUM	200.7	N		0E-9	0.85 MG/L		
1045	SELENIUM	200.8	Y	MRL	5.000000000 UG/L		01-01-2008	12-31-2010
1050	SILVER	200.8	Y	MRL	1.000000000 UG/L			
1052	SODIUM	200.7	N		0E-9	1.24 MG/L		
1055	SULFATE	375.2	N		0E-9	20.2 MG/L		
1067	ALKALINITY, CACO3 STABILITY	310.2	N		0E-9	157.000 MG/L		
1074	ANTIMONY, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1075	BERYLLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1085	THALLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1095	ZINC	200.8	N		0E-9 UG/L	14.1 UG/L		
1916	HARDNESS, CARBONATE	2340B	N		0E-9	161.000 MG/L		
1925	PH	150.1	N		0E-9 PH	7.75 PH		
1930	TDS	160.1	N		0E-9	175.000 MG/L		

**Total Number of Records Fetched = 29**



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<b>Water System No. :</b>	MO5180648	<b>Federal Type :</b>	NTNC
<b>Water System Name :</b>	KRAFT FOODS GROUP INC	<b>State Type :</b>	NTNC
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	A	<b>Activity Date :</b>	01-01-1954
<b>Lab Sample No. :</b>	AB37544	<b>Collection Date :</b>	11-01-2010

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

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Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2210	CHLOROMETHANE	524.2	Y	MRL	10.000000000 UG/L			
2212	DICHLORODIFLUOROMETHANE	524.2	Y	MRL	1.000000000 UG/L			
2214	BROMOMETHANE	524.2	Y	MRL	2.500000000 UG/L			
2216	CHLOROETHANE	524.2	Y	MRL	5.000000000 UG/L			
2218	TRICHLOROFLUOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2224	TRANS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2228	CIS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2246	HEXACHLOROBUTADIENE	524.2	Y	MRL	1.000000000 UG/L			
2248	NAPHTHALENE	524.2	Y	MRL	1.000000000 UG/L			
2251	METHYL TERT-BUTYL ETHER	524.2	Y	MRL	1.000000000 UG/L			
2378	1,2,4-TRICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2380	CIS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2408	DIBROMOMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2410	1,1-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2412	1,3-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2414	1,2,3-TRICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2416	2,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2418	1,2,4-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2420	1,2,3-TRICHLOROBENZENE	524.2	Y	MRL	1.000000000 UG/L			
2422	N-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2424	1,3,5-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2426	TERT-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2428	SEC-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2430	BROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2931	1,2-DIBROMO-3-CHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2941	CHLOROFORM	524.2	Y	MRL	0.500000000 UG/L			
2942	BROMOFORM	524.2	Y	MRL	0.500000000 UG/L			
2943	BROMODICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2944	DIBROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2946	ETHYLENE DIBROMIDE	524.2	Y	MRL	0.100000000 UG/L			
2955	XYLENES, TOTAL	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2963	XYLENE, META AND PARA	524.2	Y	MRL	0.500000000 UG/L			
2964	DICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2965	O-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2966	P-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2967	M-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2968	O-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2969	P-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2976	VINYL CHLORIDE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2977	1,1-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2978	1,1-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2979	TRANS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2980	1,2-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2981	1,1,1-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2982	CARBON TETRACHLORIDE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010

2983	1,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2984	TRICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2985	1,1,2-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2986	1,1,1,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2987	TETRACHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2988	1,1,2,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2989	CHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2990	BENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2991	TOLUENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2992	ETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2993	BROMOBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2994	ISOPROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2996	STYRENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2997	O-XYLENE	524.2	Y	MRL	0.500000000 UG/L			
2998	N-PROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			

**Total Number of Records Fetched = 61**

# Drinking Water Branch

## Chem/Rad Sample Results

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[Water Systems](#)

[Water System Search](#)

[County Map](#)

### Glossary

<b>Water System No. :</b>	MO5069088	<b>Federal Type :</b>	C
<b>Water System Name :</b>	GENERAL COUNCIL ASSEMBLIES OF GOD	<b>State Type :</b>	C
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	A	<b>Activity Date :</b>	01-01-1979
<b>Lab Sample No. :</b>	AB35346	<b>Collection Date :</b>	10-26-2010

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
0100	TURBIDITY	180.1	Y	MRL	1.000000000 NTU			
1002	ALUMINUM	200.8	Y	MRL	10.000000000 UG/L			
1005	ARSENIC	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1010	BARIIUM	200.8	N		0E-9 UG/L	69.1 UG/L	01-01-2008	12-31-2010
1015	CADMIUM	200.8	Y	MRL	0.200000000 UG/L		01-01-2008	12-31-2010
1016	CALCIUM	200.7	N		0E-9	32.8 MG/L		
1017	CHLORIDE	4500CL-E	N		0E-9	2.96 MG/L		
1020	CHROMIUM	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1022	COPPER, FREE	200.8	Y	MRL	1.000000000 UG/L			
1024	CYANIDE	335.4	Y	MRL	0.003000000 MG/L		01-01-2008	12-31-2010
1025	FLUORIDE	300.0	N		0E-9	0.08 MG/L	01-01-2008	12-31-2010
1028	IRON	200.7	N		0E-9 UG/L	144.000 UG/L		
1030	LEAD	200.8	N		0E-9 UG/L	1.07 UG/L		
1031	MAGNESIUM	200.7	N		0E-9	16.00 MG/L		
1032	MANGANESE	200.8	N		0E-9 UG/L	2.38 UG/L		
1035	MERCURY	200.8	Y	MRL	0.200000000 UG/L		01-01-2008	12-31-2010
1036	NICKEL	200.8	Y	MRL	1.000000000 UG/L			
1042	POTASSIUM	200.7	N		0E-9	1.12 MG/L		
1045	SELENIUM	200.8	Y	MRL	5.000000000 UG/L		01-01-2008	12-31-2010
1050	SILVER	200.8	Y	MRL	1.000000000 UG/L			
1052	SODIUM	200.7	N		0E-9	1.72 MG/L		
1055	SULFATE	375.2	N		0E-9	13.7 MG/L		
1067	ALKALINITY, CACO3 STABILITY	310.2	N		0E-9	132.000 MG/L		
1074	ANTIMONY, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1075	BERYLLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1085	THALLIUM, TOTAL	200.8	Y	MRL	1.000000000 UG/L		01-01-2008	12-31-2010
1095	ZINC	200.8	N		0E-9 UG/L	44.2 UG/L		
1916	HARDNESS, CARBONATE	2340B	N		0E-9	148.000 MG/L		
1925	PH	150.1	N		0E-9 PH	7.94 PH		
1930	TDS	160.1	N		0E-9	166.000 MG/L		

**Total Number of Records Fetched = 30**

# Drinking Water Branch

## Chem/Rad Sample Results

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[Water System Detail](#)

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<b>Water System No. :</b>	MO5069088	<b>Federal Type :</b>	C
<b>Water System Name :</b>	GENERAL COUNCIL ASSEMBLIES OF GOD	<b>State Type :</b>	C
<b>Principal County Served :</b>	GREENE	<b>Primary Source :</b>	GW
<b>Status :</b>	A	<b>Activity Date :</b>	01-01-1979
<b>Lab Sample No. :</b>	AB35699	<b>Collection Date :</b>	10-26-2010

This list displays sample/results of all non-microbial analytes (TSAANLYT.TYPE\_CODE <> MOR) associated to the selected sample. Results for Microbial Analytes are not included.

Analyte Code	Analyte Name	Method Code	Less than Indicator	Level Type	Reporting Level	Concentration level	Monitoring Period Begin Date	Monitoring Period End Date
2030	P-ISOPROPYLTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2210	CHLOROMETHANE	524.2	Y	MRL	10.000000000 UG/L			
2212	DICHLORODIFLUOROMETHANE	524.2	Y	MRL	1.000000000 UG/L			
2214	BROMOMETHANE	524.2	Y	MRL	2.500000000 UG/L			
2216	CHLOROETHANE	524.2	Y	MRL	5.000000000 UG/L			
2218	TRICHLOROFLUOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2224	TRANS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2228	CIS-1,3-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2246	HEXACHLOROBUTADIENE	524.2	Y	MRL	1.000000000 UG/L			
2248	NAPHTHALENE	524.2	Y	MRL	1.000000000 UG/L			
2251	METHYL TERT-BUTYL ETHER	524.2	Y	MRL	1.000000000 UG/L			
2378	1,2,4-TRICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2380	CIS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2408	DIBROMOMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2410	1,1-DICHLOROPROPENE	524.2	Y	MRL	0.500000000 UG/L			
2412	1,3-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2414	1,2,3-TRICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2416	2,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2418	1,2,4-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2420	1,2,3-TRICHLOROBENZENE	524.2	Y	MRL	1.000000000 UG/L			
2422	N-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2424	1,3,5-TRIMETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2426	TERT-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2428	SEC-BUTYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2430	BROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2931	1,2-DIBROMO-3-CHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L			
2941	CHLOROFORM	524.2	Y	MRL	0.500000000 UG/L			
2942	BROMOFORM	524.2	Y	MRL	0.500000000 UG/L			
2943	BROMODICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2944	DIBROMOCHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L			
2946	ETHYLENE DIBROMIDE	524.2	Y	MRL	0.100000000 UG/L			
2955	XYLENES, TOTAL	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2963	XYLENE, META AND PARA	524.2	Y	MRL	0.500000000 UG/L			
2964	DICHLOROMETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2965	O-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2966	P-CHLOROTOLUENE	524.2	Y	MRL	0.500000000 UG/L			
2967	M-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2968	O-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2969	P-DICHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2976	VINYL CHLORIDE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2977	1,1-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2978	1,1-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2979	TRANS-1,2-DICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2980	1,2-DICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2981	1,1,1-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010

2982	CARBON TETRACHLORIDE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2983	1,2-DICHLOROPROPANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2984	TRICHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2985	1,1,2-TRICHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2986	1,1,1,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2987	TETRACHLOROETHYLENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2988	1,1,2,2-TETRACHLOROETHANE	524.2	Y	MRL	0.500000000 UG/L			
2989	CHLOROBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2990	BENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2991	TOLUENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2992	ETHYLBENZENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2993	BROMOBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2994	ISOPROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			
2996	STYRENE	524.2	Y	MRL	0.500000000 UG/L		01-01-2008	12-31-2010
2997	O-XYLENE	524.2	Y	MRL	0.500000000 UG/L			
2998	N-PROPYLBENZENE	524.2	Y	MRL	0.500000000 UG/L			

**Total Number of Records Fetched = 61**

## VII. REFERENCES



Solo Cup Manufacturing Facility  
Greene County, Missouri  
Pre-CERCLIS Site Screening  
BVNA, 2010a

***Phase I***  
**Environmental Site Assessment**

Solo Cup Company  
1100 North Glenstone Avenue  
Springfield, Missouri

October 1, 2010  
Project Number 10010-010096.00

Prepared for  
**Neal, Gerber & Eisenberg LLP**  
Chicago, Illinois



**BUREAU  
VERITAS**

For the benefit of business and people

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## EXECUTIVE SUMMARY

On behalf of Solo Cup Company, Ms. Lisa Zebovitz, with Neal, Gerber & Eisenberg LLP, retained Bureau Veritas North America, Inc. to conduct a Phase I Environmental Site Assessment (ESA) of the Solo Cup Company located at 1100 North Glenstone Avenue, Springfield, Greene County, Missouri (the "subject property"). This assessment was requested in association with a potential financial transaction.

Bureau Veritas conducted this ESA in conformance with ASTM Designation: E 1527-05 *Standard Practice for ESAs: Phase I ESA Process*. Scope of work and the terms and conditions are described in our Proposal Number 3303.10.258 dated July 6, 2010. Exceptions and limitations encountered during this ESA are identified in the report.

The subject property consists of approximately 75 acres, of which approximately 63 acres are utilized as the Springfield Solo Cup Company manufacturing facility and approximately 12 acres are undeveloped land (southern portion of the property). The facility consists of six connected buildings (Buildings 1 through 6). Building 4 and Building 5 are connected by a walkway. The buildings include approximately 900,000 square feet of manufacturing space and approximately 250,000 square feet of warehouse space and are surrounded by paved parking. An approximately 0.2 acre parcel is located to the south beyond East Chestnut Expressway and is in use as a railroad Right of Way (ROW). A spur off of the Burlington Northern and Santa Fe Railway traverses the western boundary of Building 4.

The facility manufactures Styrofoam Trophy® cups and paper soufflé cups. Trophy® cups are made by first extruding resin pellets into foam and then forming the two piece foam cup in a manner similar to a paper cup. Carbon dioxide (CO<sub>2</sub>) and refrigerant R-152a (also referred to as Z2) are used as blowing agents in the foam extrusion process. The soufflé cups are small pleated paper cups used for serving condiments. Trophy® cups are made in different colors and have printing on the finished cup. The printing is either performed on the extruded foam roll prior to assembly or completed in-line during assembly. The facility uses water-based inks.

Historical research has established the use of the subject property since 1938. Based on historic information reviewed during this assessment, the subject property consisted of undeveloped and/or agricultural land prior to the mid to late 1930s. The Wagon Wheel Restaurant and Filling Station was located at 1200 North Glenstone Avenue (northwest portion of the subject property) by 1938 and at least until 1946. The subject property address also was listed as the Glen View Company (real estate) in 1941 and 1946. Building 1 was constructed in 1951, and Buildings 2, 3 and 4 were constructed as additions between 1952 and 1957. Building 5 was constructed in 1957, along with the passageway to Building 4. Building 6 was constructed in 1965. In 1985, passageways were constructed between Buildings 5 and 6 and the building located on the eastern adjoining property. The facility has operated as a manufacturing plant since its initial construction in 1951. Operations since 1951 have included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products.

This assessment has revealed no evidence of recognized environmental conditions in connection with the property, except for the following:

- Eleven historic USTs removed without completed documentation of closure and evidence of releases indicated.



### EXECUTIVE SUMMARY (Continued)

- Releases of No. 6 fuel oil from ASTs.
- Historic operations utilizing solvent-based inks, and use of 1,1,1-Trichloroethane (TCA) as a cleaning solvent.
- Possible historic gas station use on the northwest corner of the subject property between at least 1938 and 1946.
- Placement of building materials and other debris as fill on 12 acres of undeveloped areas of the subject property.

This ESA has revealed the following notable finding, not considered a REC, in connection with the subject property:

- Historic adjoining gas station at 1308 North Glenstone Avenue in at least 1965 immediately north of the subject property.

Based on the results of this assessment, Bureau Veritas recommends a subsurface investigation to evaluate the potential for soil and/or groundwater impact in the vicinity of the former subject property USTs, manufacturing areas, downgradient areas and former filling/service station.

For Full Report, Send Request to

Missouri Department of Natural Resources  
Hazardous Waste Program  
Custodian of Records  
P. O. Box 176, Jefferson City, MO 65102-0176  
Phone: (573) 751-3043

File Name: Solo Cup Manufacturing Facility  
Superfund Section Files



Solo Cup Manufacturing Facility  
Greene County, Missouri  
Pre-CERCLIS Site Screening  
BVNA, 2010b

## ***Limited Phase II Environmental Site Assessment***

Solo Cup Operating Corporation Facility  
1100 North Glenstone Avenue  
Springfield, Missouri

October 20, 2010  
10010-010096.02

Prepared for  
**Solo Cup Operating Corporation Facility**  
Springfield, Missouri

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Hazardous Waste Program  
MO Dept. of Natural Resources



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- 3A Default Target Level Exceedance in Groundwater (North)
- 3B Default Target Level Exceedance in Groundwater (South)
- 3C Default Target Level Exceedance in Groundwater (Free Product Investigation)

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- A Boring Logs
- B Laboratory Analytical Results





## EXECUTIVE SUMMARY

Solo Cup Operating Corporation (Solo Cup Company) retained Bureau Veritas North America, Inc. to conduct a Limited Phase II Environmental Site Assessment (Phase II ESA) of the Solo Cup Company facility located at 1100 North Glenstone Avenue, Springfield, Greene County, Missouri (the "subject property"). This Phase II ESA was conducted in accordance with Bureau Veritas' proposal number 1009.10.220, dated September 16, 2010 and change order 1009.10.220CO1 dated September 23, 2010.

The purpose of this Phase II was to evaluate findings of our *Phase I Environmental Site Assessment* (Phase I ESA) of the subject property dated October 1, 2010. At Solo Cup Company's request, the boring locations and analyses were selected by their buyer's representative, Environmental Works, Inc.

The Phase I ESA identified concerns related to incomplete documentation for removal of eleven former underground storage tanks (USTs), release of No. 6 fuel oil from aboveground storage tanks (ASTs) that discharged to storm water outfalls, past use of solvent-based inks and clean-up solvents including 1,1,1-trichloroethane (TCA), a historical onsite filling station, concrete and debris piles and placement of debris and plastic as fill, and a historical filling station on the adjoining property.

This Phase II ESA included advancement of 41 borings, and collection of 35 soil and 17 groundwater samples and one free product sample. At 23 locations, groundwater was not encountered. The samples were analyzed variously for volatile organic compounds (VOCs); total petroleum hydrocarbons (TPH) as gasoline range organics (TPH-GRO), diesel range organics (TPH-DRO) and oil range organics (TPH-ORO); polynuclear aromatic hydrocarbons (PAHs); and polychlorinated biphenyls (PCBs). Free product was encountered at two locations, BV-5 and BV-12, with sufficient volume for sampling the free product at BV-12.

Based on the analytical data, there were no exceedances of Missouri Department of Natural Resources (MoDNR) Default Target Levels in investigated areas, with the exception of free product and petroleum hydrocarbons, VOCs and/or SVOCs in soil and/or groundwater at BV-12, BV-19, BV-FP-5 and BV-FP-6, which are in the vicinity of former No. 6 fuel oil USTs. The Missouri Department of Natural Resources was notified of the observed impacts on September 23, 2010. The extent could not be delineated due to the presence of adjacent structures.

For Full Report, Send Request to

Missouri Department of Natural Resources  
Hazardous Waste Program  
Custodian of Records  
P. O. Box 176, Jefferson City, MO 65102-0176  
Phone: (573) 751-3043

File Name: 1100 N. Glenstone (ST2709/R8573)  
Tanks Section Files

Solo Cup Manufacturing Facility  
Greene County, Missouri  
Pre-CERCLIS Site Screening  
BVNA, 2011

## ***Monitoring Well Installation and Groundwater Sampling Report***

Solo Cup Operating Corporation Facility  
1100 North Glenstone Avenue  
Springfield, Missouri

January 20, 2011  
10010-010096.03

Prepared for  
Solo Cup Operating Corporation Facility  
Springfield, Missouri



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MO Dept. of Natural Resources

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B	Laboratory Analytical Results



## EXECUTIVE SUMMARY

Solo Cup Operating Corporation (Solo Cup) retained Bureau Veritas North America, Inc. to install groundwater monitoring wells and conduct groundwater sampling at the Solo Cup Facility located at 1100 North Glenstone Avenue, Springfield, Greene County, Missouri (the "Site"). The monitoring well installation was conducted in accordance with Bureau Veritas' proposal number 1009.10.283, dated November 10, 2010, and discussions with Environmental Works, Inc. the buyer's on-site representative, on November 10, 2010.

The purpose of the monitoring well installation and groundwater sampling activities was to further evaluate petroleum hydrocarbon and solvent impacted groundwater identified in the Limited Phase II Environmental Site Assessment (ESA) dated October 20, 2010, which identified free product and petroleum hydrocarbons at two (2) locations in the vicinity of former #6 fuel oil underground storage tanks (USTs) and volatile organic compounds (VOCs) near the southern portion of the building and approximate former UST location (BV-FP-5). The Missouri Department of Natural Resources was notified of the observed petroleum hydrocarbon impacts on September 23, 2010.

Based on the analytical data obtained during the current investigation, there were no exceedances of Missouri Department of Natural Resources (MoDNR) Default Target Levels in soil and groundwater samples submitted for analyses, with the exception of trichloroethylene (TCE), which was detected above the Missouri Risk-Based Corrective Action (MRBCA) default target levels (DTL) of 0.005 milligrams per liter (mg/L) in the groundwater samples from outside the southern portion of the building, with concentrations detected up to 0.011 mg/L. The geotechnical data indicated that soils at the site are clay, which falls into the Soil Type 3 category for Missouri Department of Natural Resources Missouri Risk Based Corrective Action classification purposes. Free product was not observed in the monitoring wells.

For Full Report, Send Request to

Missouri Department of Natural Resources  
Hazardous Waste Program  
Custodian of Records  
P. O. Box 176, Jefferson City, MO 65102-0176  
Phone: (573) 751-3043

File Name: 1100 N. Glenstone (ST2709/R8573)  
Tanks Section Files





March 21, 2012



Ms. Lisa S. Zebovitz  
Neal, Gerber & Eisenberg LLP  
Two North LaSalle Street, Suite 1700  
Chicago, Illinois 60602-3801

Project No. 10010-010096.04

**Subject: Summary of Free Product Investigation/Recovery - Revised  
Former Solo Cup Facility  
1100 North Glenstone Avenue, Springfield, Missouri**

Dear Ms. Zebovitz:

As requested, Bureau Veritas North America, Inc. (Bureau Veritas) is pleased to present this summary report of the free product investigation/recovery for the Former Solo Cup Operating Corporation Facility located at 1100 North Glenstone Avenue, Springfield, Missouri (the "site"). The work was conducted according to the terms included in Proposal No. 1009.11.031 dated June 3, 2011 and authorized June 9, 2011. This revision includes modifications requested in comments provided by the Missouri Department of Natural Resources in its letter dated January 31, 2012.

#### **BACKGROUND**

Based on findings in the Phase I Environmental Site Assessment (October 1, 2010), historical uses of the site date to the 1930s, when the Wagon Wheel Restaurant and Filling Station was located on the northwest portion of the site, possibly through the 1940s. The site is currently developed with six buildings (Buildings 2 through 6), which were constructed between 1952 and 1965, with improvements added through 1985. Operations since 1951 have included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products. Until the facility ceased operations in November 2010, the facility manufactured Styrofoam Trophy® cups and paper soufflé cups and used water-based inks. Six No. 6 Fuel Oil underground storage tanks (USTs) were installed during the period of operations; the USTs were removed between 1987 and 1989. The facility has been decommissioned.

The Phase II ESA dated October 20, 2010 included advancement of borings, and collection of soil, groundwater, and free product samples. Groundwater was collected at locations with sufficient quantities of water for sampling. The Phase II ESA identified soil and groundwater impacts at concentrations exceeding Missouri Department of Natural Resources (MDNR) Default Target Levels (DTLs) in the area of the former #6 Fuel Oil USTs and in the presumed downgradient direction from the manufacturing area. Petroleum hydrocarbons and chlorinated solvents were detected in the groundwater at concentrations exceeding the most conservative MDNR Default Target Levels (Residential). Approximately 2 inches of free product were encountered in the vicinity of the former #6 Fuel Oil USTs (Boring BV-12). The free product was observed in a boring that met refusal at approximately 3 feet bgs; the free product was observed on the hard surface. The MDNR was notified of the observed impacts on September 23, 2010.



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Following the identification of the free product, seven (7) additional borings were installed to evaluate the extent of free product (BV-FP-1 through BV-FP-7; Figure 1). No additional free product was observed in the adjacent borings.

The extent of petroleum related compounds in the soil and groundwater appear to be limited to the area around BV-12, which is an industrial area. No residential properties are located in the immediate area of the identified contamination.

Based on the observed limited extent of free product, a test pit was proposed at BV-12. This report summarizes the observations made during the free product investigation.

### **SCOPE OF WORK**

During the free product investigation, the following activities were conducted:

- 1) One source removal excavation advanced in the vicinity of soil boring BV-12. The excavation was proposed to remove free product impacted soils identified during previous investigations. Soil was excavated and placed directly into trucks. Free product could not be separated and was removed with the soil. The excavation was advanced near footers and the structures, however it was not advanced below load bearing structures. Water was observed following the removal of the soil and free product, and the liquids were pumped into drums. Approximately 250 gallons of fluids were removed for disposal as a non-hazardous waste.
- 2) One soil and one groundwater sample was collected from the source removal excavation. The water sample was collected from water removed from the excavation. The samples were placed directly into laboratory-supplied bottles, labeled, and placed in an ice-chilled cooler pending delivery to the laboratory for the analyses of gasoline range organic (GRO) compounds and volatile organic compounds (VOCs) by EPA Method 8260B. Diesel range organic (DRO), oil range organic (ORO) analysis and Missouri Department of Natural Resources (MDNR) list of polynuclear aromatic hydrocarbons (PAH) analysis was conducted by EPA Method 8270C on a standard turnaround time.
- 3) The three (3) monitoring wells installed in November 2010 in the UST area (MW-05, MW-06, MW-09) were sampled in May 2011. The wells have been checked quarterly, however no additional samples have been collected because adequate water was not available for sample collection. The May 2011 samples were analyzed for volatile organic compounds. A separate Tier 1 Risk Assessment Report (Tier 1 Tables) for submittal to MDNR was prepared. Groundwater monitoring results are tabulated in the Risk Assessment Report as well in the UST Quarterly Monitoring discussion of this letter report.

### **FIELD ACTIVITIES AND RESULTS**

#### **SOURCE REMOVAL EXCAVATION**

Between July 20 and July 21, 2011, Bureau Veritas and its subcontractor, Ramsey Excavating of Springfield, Missouri, mobilized to the site for the source removal excavation in the vicinity of soil boring BV-12. Field activities were observed by Mr. Robert M. Lanning, a representative of Environmental Works, Inc., the buyer's representative and Ms. Amy Williams of Petroleum Storage Tank Insurance Fund (PSTIF). Prior to mobilizing to the site, Bureau Veritas contacted the Missouri One Call System more





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than 72 hours prior to drilling, as required by law to mark publicly-owned subsurface utilities. Bureau Veritas also subcontracted a private utility locator (Utila Safe Construction, LLC) to evaluate locations of potential buried utilities at the source removal excavation.

The excavation pit was approximately 9-feet wide by 21-feet long with an approximate depth of 5.5-feet at the deepest part of the excavation (Figure 2). The location of the excavation is shown in Figure 1, and the excavation detail is shown in Figure 2. A localized volume of free product-containing soil was observed within one foot below ground surface (bgs), near the northwest corner of the excavation. The free product appeared to be perched on a concrete ledge/concrete pipe chase. Previously unmarked utility lines/piping (aligned east to west) were observed within the concrete pipe chase in the excavation. The utility lines/piping, which had been abandoned, or were not in use, were surrounded by cement on the west end of the excavation. The multiple utility lines/piping appeared to be within a soil-filled concrete pipe chase. The south wall of the pipe chase was approximately 3.6 feet high from the base of the concrete pipe chase floor. The base of the concrete pipe chase floor was approximately 4.25 feet bgs and approximately 2 feet wide. The concrete pipe chase floor ran approximately 17 feet from the west wall of the excavation (adjacent to former wax aboveground storage tanks). Permission was given from Ms. Williams of PSTIF to jackhammer the concrete in the northwest corner of the excavation. Once the concrete was broken and removed, the two 2-inch utility lines/piping were observed to be disconnected and out of service. Additional piping was observed after the broken concrete was removed. Excavation was continued by hand digging around utility lines/piping. A total of five utility lines/piping were discovered within the excavation; the piping was no longer in service.

Limited areas of free product (less than 2 feet by 2 feet and no deeper than the pipe chase floor) were observed within pipe chase (Figure 2). The areas of free product were observed approximately 11.5 feet and 15 feet from the west wall of the excavation and approximately 3.75 feet bgs. A layer of presumed contaminated soil was observed running below the two inch utility lines/piping, but above the concrete pipe chase floor. The petroleum hydrocarbon-affected soil appeared to be perched on the concrete below the piping and was approximately 3 to 4 inches thick. The petroleum hydrocarbon-affected soil was black and grayish clay mixed with gravel with a petroleum odor. The PID measurement of the soil had a maximum measurement of 14.3 parts per million (ppm). Soil was collected at three points along the bottom of the excavation and the headspace screened with a PID. There were no detections with the PID headspace screening. One soil sample was collected from below the observed contamination. The soil screening measurement for the deeper sample was 0.0 ppm. The soil sample (Test Pit – Floor) was submitted for laboratory analysis based on the PID measurement, no observation of visual indications of impacts, and location relative to BV-12 (Figure 2).

One truck load of approximately 28 tons of excavated soil was transported to the City of Springfield Landfill for disposal. Groundwater generated during source removal excavation was placed in five United States Department of Transportation (USDOT)-approved steel 55-gallon drums for subsequent disposal.

Concentrations of VOCs, TPH-GRO, TPH-DRO, TPH-ORO, MDNR list of PAH in the soil sample collected from the floor of excavation at approximately 5.4 – 5.8 feet bgs (Test Pit – Floor) did not exceed laboratory reporting limits with the exception of TPH-ORO (22.4 mg/kg). However, the TPH-ORO concentration in the soil sample did not exceed the MDNR Default Target Levels. Sample results from the soil sample that was collected are shown in Table 1 and Table 2. Previous boring locations as well as the free product excavation sample location (Test Pit-Floor) are shown in Figure 3.





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A small volume of water was entering the west end of the excavation; however minimal water was available for sample collection following the completion of the excavation. Free product was not observed on the water entering the excavation. Several compounds were detected in the water, however the concentrations were below the Risk Based Target Levels (RBTL) Non-Residential (Dermal Contact). The 1,2,4 trimethylbenzene, and 1,3,5 trimethylbenzene detections which may be related to the petroleum hydrocarbon release were above residential DTLs, however they were below the Tier 1 non-residential RBTLs (Dermal Contact). Laboratory results of the water removed from the excavation during the field work are shown in Table 3 and Table 4.

### **UST QUARTERLY MONITORING**

Groundwater samples were collected from groundwater monitoring wells in May 2011. The sample results are included in the Tier 1 Risk Assessment Report. The groundwater data are summarized in Table 3, 4, 5 and Table 6. Groundwater monitoring well locations and measured groundwater elevations are shown in Figure 4. Groundwater quality data are included in Figure 5.

Bureau Veritas checked the site monitoring wells for available groundwater on the dates shown in Table 5. The monitoring wells were monitored for depth of water and the three (3) monitoring wells in the vicinity of the former USTs (MW-05, MW-06 and MW-09) were checked to evaluate if adequate water was available for sampling. Depth to groundwater in May 2011 ranged from 7.52 to 18.92 below top of casing (approximately ground surface), and from 7.74 to 13.60 feet below ground surface in the UST area monitoring wells (MW-5, MW-6, and MW-9). Due to inadequate amount of water in MW-05, MW-06, and MW-09, Bureau Veritas did not collect groundwater samples for the quarterly monitoring in July or November 2011. However, a monitoring well on the property approximately 600 feet to the north of the former UST area, approximately 10 feet of seasonal groundwater level variation.

Groundwater data collected in May 2011, indicated a southeast component to groundwater flow from the area where free product was observed. In addition, petroleum hydrocarbon-related compounds detected in the free product area were not detected in the downgradient (east and southeast) UST monitoring wells (MW-5, MW-6, MW-9).

Standard protocols for decontamination of measuring equipment were employed. This included the decontamination of the water level between monitoring the depth to water measurements. Personal protective equipment was changed periodically to reduce the potential risk of cross-contamination.

### **CONCLUSIONS**

Based on the results of the free product investigation and removal, and groundwater monitoring conducted in May 2011, the free product identified during previous investigations was removed with soils during the excavation of the test pit. No detections of VOCs were observed in the soil from below the excavation; only ORO was detected. Concentrations of VOCs and ORO detected in the free product excavation water sample were below the Non-Residential RBTLs (Dermal Contact). The measured hydraulic gradient in the UST monitoring wells (MW-5, MW-6, MW-9) indicated groundwater flow to the southeast. Groundwater samples from the inferred (southeast) downgradient direction of the free product also appear to be below non-Residential (and Residential) RBTLs for the UST petroleum related hydrocarbons. Therefore, no further action related to the free product or the release is recommended.



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We appreciate the opportunity to assist you with this project. If you have any questions, please contact me at 303.218.3518 or [john.rohde@us.bureauveritas.com](mailto:john.rohde@us.bureauveritas.com).

Sincerely,

John A. Rohde  
Manager of Site Assessments and Due Diligence  
*Health, Safety, and Environmental Services*

Attachments:

Table 1 – VOCs in Excavation Soil  
Table 2 – PAH Analysis in Excavation Soil  
Table 3 – VOCs in Excavation Groundwater  
Table 4 – PAH in Excavation Groundwater  
Table 5 – Groundwater Levels  
Table 6 – UST Groundwater Analytical Data  
Figure 1 – Free Product Excavation Area  
Figure 2 - Excavation Details  
Figure 3 – Soil Sample and Excavation Sample Map  
Figure 4 – Monitoring Well Locations and Elevations  
Figure 5 - Groundwater Quality Results  
Attachment 1 – Laboratory Analytical Results  
Attachment 2 – Waste Manifests

For Full Report, Send Request to

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Hazardous Waste Program  
Custodian of Records  
P. O. Box 176, Jefferson City, MO 65102-0176  
Phone: (573) 751-3043

File Name: 1100 N. Glenstone (ST2709/R8573)  
Tanks Section Files





March 21, 2012



Ms. Vickie Olive  
Remediation Unit  
Missouri Department of Natural Resources  
Jefferson City, Missouri 65101

Bureau Veritas Project No. 10010-010096.04

Subject: Transmittal for Revised Tier 1 Risk Assessment Report for Petroleum Releases  
at Underground Storage Tank Sites  
Sweetheart Cup Company  
1100 North Glenstone Avenue, Springfield, Missouri  
ST0002709, R00008573

Dear Ms. Olive:

Bureau Veritas North America, Inc. (Bureau Veritas), on behalf of the Solo Cup Operating Corporation (Solo) is pleased to submit this revised Tier I Risk Assessment Report for Petroleum Releases at Underground Storage Tank Sites for the site referenced above. This revision was completed to address comments provided to us in a letter dated January 31, 2012 from the Missouri Department of Natural Resources.

A Risk Assessment evaluation was performed following the completion of free product removal using the Missouri Department of Natural Resources Tier 1 Risk Assessment Report for Petroleum Releases at Underground Storage Tank Sites. The Tier 1 Risk Assessment was included in a work plan approved by the Missouri Department of Natural Resources (MDNR) on April 21, 2011. The results of the evaluation indicated that soils around the free product were not impacted above Default Target Levels (DTLs). However, water that entered the excavation following free product removal, which appeared to be perched, was above DTLs for two compounds, 1,2,4 trimethylbenzene, and 1,3,5 trimethyl benzene, although the concentrations were below the Risk Based Target Levels for non-residential (Dermal Contact) land use. Groundwater monitoring wells in the downgradient direction had no detectable concentrations of petroleum hydrocarbon related compounds during sampling collected in May 2011.

The summary provided to support the Risk Assessment includes discussion of the site conditions including land use, geology and hydrogeology, and impacts to soil and groundwater as they relate to potential exposure pathways.

#### Land Use

The UST portion of the site is part of a larger parcel consisting of approximately 75 acres, of which approximately 63 acres were formerly utilized as the Solo Springfield manufacturing facility and approximately 12 acres were undeveloped land (southern portion of the property). The facility consists of six connected buildings. The surface area of the area immediately surrounding the free product assessment is concrete and asphalt pavement. A spur off of the Burlington Northern and Santa Fe Railway traverses a portion of the property.





Historical research has established the use of the site since 1938. Based on historic information reviewed during a previous Phase I Environmental Site Assessment, the site consisted of undeveloped and/or agricultural land prior to the mid- to late-1930s. The Wagon Wheel Restaurant and Filling Station was located at 1200 North Glenstone Avenue (northwest portion of the subject property approximately ) by 1938 and at least until 1946. The subject property address also was listed as the Glen View Company (real estate) in 1941 and 1946. The five initial buildings were constructed between 1951 and 1957. Further construction was completed in 1957 and 1965. The facility operated as a manufacturing plant (Solo and other operators) from its initial construction in 1951 until 2010 when it was decommissioned. Operations included the manufacturing of plastic cups and lids, foam plates, paper cups, and wax-coated plastic products. Six (6) underground storage tanks (No. 6 Fuel Oil) were in use and removed between 1987 and 1989.

The surrounding land use is also commercial or light industrial. The nearest residential is approximately 950 feet to the west of the former USTs. The planned continued land use for the site is commercial/industrial.

#### **Release and Investigation History**

In 1987, four of six 10,000-gallon steel tanks, all of which contained No. 6 fuel oil, were removed from an area immediately south of the main production building (Figure 1). Reportedly, two USTs were full of sand, one UST was full of sand and water and one UST contained approximately 2,500-gallons of oil. Oil-stained soil was observed in the area of the UST excavation and groundwater with an oil sheen was encountered in the excavation pit at approximately 10 feet bgs. Remediation consisted of the removal of the oil-stained soil and evacuation of the oil-contaminated water. Approximately 300,000 pounds of contaminated soil and fly ash were disposed of offsite. MDNR did not require soil sampling in conjunction with the removal. According to the documents, oil was seeping back into the excavation pit at the conclusion of excavation activities. Three 25-foot sections of slotted PVC pipe were installed to recover any free product or contaminated groundwater that might remain in and around the area. No groundwater samples were taken from the recovery wells. Reportedly, no additional oil was recovered and the wells were removed.

The two remaining 10,000-gallon steel tanks, containing No. 6 fuel oil, were removed in 1988. At the time of excavation, oil-stained soil was observed in and around the excavation pit. Five hundred and forty tons of soil were removed from the excavation pit. Groundwater with an oily sheen was observed in the excavation pit at roughly 10 feet bgs. The fluid was evacuated and treated with skimmers and absorbents. No groundwater or soil samples were required by the MDNR and reportedly, MDNR considered the case to be closed.

A limited subsurface investigation (LSI) was conducted at the facility from September 21, 2010 to September 24, 2010. The LSI included soil and groundwater sample collection to investigate potential environmental conditions identified during a Phase I Environmental Site Assessment. Soil borings were advanced in the area of the former UST basin, as well as in surrounding areas. Free product and petroleum hydrocarbon-affected soil were observed in boring BV-12, located to the east of the former USTs. Laboratory analysis did not detect petroleum hydrocarbon impacted soil or groundwater in the former UST excavation (BV-13, BV-14; see Attachment 13, Attachment 19). The field observations and laboratory analytical results indicated that the soil impacted with petroleum hydrocarbons exceeding MDNR DTLS was limited to a small area around BV-12. Groundwater samples were collected where sufficient water was available. Petroleum hydrocarbon impacted groundwater was limited to boring BV-12 (Attachment 19).

Groundwater monitoring wells were installed in November 2010 to further evaluate potential impacts at the site. The monitoring wells were installed, however the wells near and downgradient of the USTs (MW-5, MW-6, and MW-9) did not have adequate water available for sampling until May 2011.





A Site Characterization and Free Product Investigation Work Plan (March 30, 2011) was submitted to MDNR which outlined a plan for evaluating the extent of the identified free product, monitoring groundwater, and evaluating hydraulic parameters. The groundwater monitoring wells in the vicinity of the USTs (MW-05, MW-06, and MW-09) were sampled in May 2011, when adequate groundwater was available for sample collection. The results of the groundwater laboratory analysis indicated that the three monitoring wells did not have petroleum hydrocarbon impacts. The hydraulic gradient appeared to be toward the southeast (Attachment 16). Aquifer testing was not conducted, because there was inadequate water available following sampling in May 2011 (slow recovery) and there was inadequate water available in June 2011 when the wells were next checked. Monitoring wells were accessed monthly until August 2011 and again in November 2011, however inadequate water was available for monitoring (Attachment 16).

In July 2011, a test excavation was advanced at the location of BV-12. The Free Product Investigation Report is being submitted with this report. An area approximately 9 feet by 21 feet was excavated to a depth of approximately 5.5 feet at the maximum depth for a total volume removed of approximately 28 tons of soil. Free product appeared to be limited to a very thin layer less than two inches thick on top of a concrete pipe chase. The footer and pipe chase were removed with the free product impacted soil. Soil was removed until there were no indications of soil staining and headspace tests with a photoionization detector indicated no additional volatile organic compounds. A confirmation sample from below the area near BV-12 did not have petroleum hydrocarbon concentrations above MDNR DTLs. Water entered the excavation from the west wall during the removal of abandoned water pipes after the free product was removed. The water was pumped into drums and disposed. Residual water (less than 1 foot) was sampled directly from the excavation. Analytical results indicated that 1,2,4 trimethylbenzene and 1,3,5 trimethylbenzene were present at a concentration greater than the DTL, but less than the Tier 1 Risk Based Target Level (RSTL) for non-residential (Dermal Contact) soils. Based on the results of the excavation, the free product appeared to have been removed.

### Geology

A review of regional geologic references indicates that the site is underlain by illuviated residuum, which is clay rich soil with some cherty material. Bedrock below the site appears to be the Keokuk limestone or Burlington limestone (Attachment 8). Geotechnical sample results suggest that the soils are Type 3 (Clayey) soils (Attachment 18). Drilling was impacted by refusal on chert or limestone layers at various depths. Borings and monitoring wells were advanced to the depth of refusal. Boring logs and monitoring well completion diagrams are presented in Attachment 10.

Groundwater levels in the residuum appears to vary seasonally. Groundwater levels were between 7 and 16 feet below the ground surface in the monitoring wells near the former USTs in May 2011 (Attachment 16). The groundwater levels vary approximately 10 feet seasonally at a monitoring well (MW-8) drilled 600 feet to the north of the UST release evaluation area. Based on groundwater levels measured in May 2011, the groundwater flow is to the southeast in the area of the UST release and identified free product (Attachment 16).

Groundwater was observed during excavation of free product-affected soils. The observed water in the excavation appeared to be perched on the west end of the excavation. By the completion of the excavation, the flow of water had subsided, indicating the volume of water was limited. In addition, the water level in the excavation was higher than observed at locations across the site, indicating that it was not directly connected with the local water table.

No groundwater seeps or surface streams are located within the general vicinity of the investigation area.

The clay soils indicate a relatively low hydraulic conductivity. Literature values for hydraulic conductivity (Attachment 11) are anticipated to range from approximately 31 to 3,100 cm/year





( $1 \times 10^{-6}$  to  $1 \times 10^{-4}$  cm/sec). Based on the hydraulic gradient observed in May 2011, the Darcy Velocity ranges from 5 cm/year to 500 cm/year indicating low groundwater flow velocities.

#### **Summary of Soil and Groundwater Sampling**

Soil has been sampled during drilling activities conducted in 2010 and free product excavation activities conducted in 2011. Soil sampling indicated that soil impacts exceeding DTLs were limited to the area immediately adjacent to the observed free product (BV-12). Subsequent excavation of the affected soils as part of the free product investigation and removal appeared to have removed remaining soils impacted with free product and petroleum related compounds to concentrations below DTLs.

Groundwater was collected from monitoring wells in May 2011. Free product, which was observed during drilling activities at BV-12, was not observed in groundwater monitoring wells in the vicinity and downgradient of BV-12. Groundwater samples collected during the May 2011 sampling event indicated that petroleum hydrocarbon concentrations were below DTLs in the downgradient direction (MW-5, MW-6, MW-9) of the observed free product. Further sampling was not possible due to inadequate water availability in August 2011 and November 2011 in the monitoring wells (MW-5, MW-6, and MW-9).

Groundwater collected in the free product excavation had detections of two compounds (1,2,4 trimethylbenzene and 1,3,5 trimethylbenzene) above DTLs, but below RBTLs for non-residential (Dermal Contact pathway) land use.

Based on the data collected to date, the petroleum hydrocarbon-affected soil in the area of the free product appears to have been removed. A limited quantity of groundwater exceeding DTLs, but below RBTLs appears to be in the excavation area.

#### **Exposure Pathways**

The on-site and off-site residential pathways do not appear to be completed based on the current and future planned land use of the on site adjacent properties. The site and adjacent properties are currently commercial/light industrial. The on-site non-residential pathways were also evaluated.

The on-site non-residential pathway for surficial soil does not appear to be complete based on the concrete and asphalt surface cover, the lack of petroleum hydrocarbon-affected surficial soil that exceeds DTLs. Surficial soil impacts were not observed during investigations. Free product impacted soil that was near surface was removed during the free product excavation.

Soil concentrations do not indicate that the indoor inhalation of vapors would be complete on site (Attachment 13). Though potentially completed, the pathway for dermal contact pathway, and indoor inhalation of vapor pathway from groundwater are not complete based on the concentrations of remaining compounds observed in the Test Pit – GW sample (Attachment 19) which are below the RBTLs for those pathways.

A drinking water well is located near the UST investigation area. However, the well did not have detectable concentrations of volatile organic compounds when sampled in November 2010. In addition, the well is over 1,200 feet deep and drawing from an aquifer below the impacted groundwater zone (Attachment 19).

The off site non-resident exposure pathways do not appear to be complete based on the limited extent of identified petroleum hydrocarbon impacts. The laboratory analytical data suggest that the impacts are limited to the site.

The on-site construction worker pathway appears to be complete. However, the remaining concentrations in soil and groundwater are below the RBTLs.

Ms. Vickie Olive  
MDNR  
March 21, 2012



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### Review

The Fuel Oil #6 USTs and petroleum hydrocarbon impacted soil were removed in the late 1980s which removed a continuing source of petroleum hydrocarbons to the subsurface. Subsequent investigation of the property in 2010 and removal of limited free product-affected soil (Free Product Investigation/Recovery letter report, March 21, 2011) identified a limited area of additional impacts including free product. The impacted soil and free product were removed by excavation and transported off site for disposal.

Following the excavation of the free product-affected soil, the source of soil and groundwater petroleum hydrocarbon contamination appears to have been removed from the site. The area of impacted groundwater appears to be limited to the immediate vicinity of the excavation used for free product-affected soil removal and the remaining concentrations are below the RBTLs for the identified pathways. In addition, monitoring wells that are downgradient of the free product and former UST areas did not have detectable petroleum hydrocarbon concentrations. Based on the site hydrogeologic characteristics, length of time since removal of the USTs and impacted soils, groundwater flow direction, and remaining petroleum hydrocarbon concentrations there does not appear to be the need to conduct additional investigation or remediation.

Deeper monitoring well installation or groundwater sampling is not recommended because May 2011 sample results did not detect impacted groundwater downgradient of the limited free product. In addition, the free product affected soil has been excavated and removed. Remaining concentrations of petroleum hydrocarbons are limited in extent based on the free product excavation sampling and previous investigations.

No additional investigation appears to be necessary with respect to the UST impacted soils or groundwater at this time.

Please contact me at 303.218.3518 to discuss this matter at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "John A. Rohde".

John A. Rohde, RG  
Manager, Site Assessments and Due Diligence  
Health, Safety and Environmental Services  
Denver and Kansas City Regional Offices

JAR/jar

cc: Ms. Gretchen Kuhn, PSTIF  
Mr. John Perugini  
Ms. Lisa Zebovitz

For Full Report, Send Request to

Missouri Department of Natural Resources  
Hazardous Waste Program  
Custodian of Records  
P. O. Box 176, Jefferson City, MO 65102-0176  
Phone: (573) 751-3043

File Name: 1100 N. Glenstone (ST2709/R8573)  
Tanks Section Files





STATE OF MISSOURI  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
**POINT LOCATIONAL DATA COLLECTION SHEET**

Solo Cup Manufacturing Facility  
Greene County, Missouri  
Pre-CERCLIS Site Screening  
MDNR, 2012a

This sheet is used to record required point locational data. To record line, area, or vertical data, please complete the Supplemental Locational Data Collection Sheet.

**1. FACILITY INFORMATION**

1A. FACILITY ID (for official use only)

1B. PERMIT NUMBER OR OTHER IDENTIFIER

ST 2709 / R8573 (Tanks Section)

1C. FACILITY OR SITE NAME

SOLO CUP MANUFACTURING FACILITY

1D. LOCATION (PHYSICAL/SITE) ADDRESS

1100 NORTH GLENSTONE AVE., SPRINGFIELD, MO

**2. DATA RECORDED FOR**

(1) APCP	(2) ESP	(3) HWP	(4) LRP	(5) SWMP	(6) PDWB	(7) SWCP
(8) WPCB	(9) EAO	(10) EC	(11) SHPO	(12) Parks	(13) GSRAD	(14) Land Survey

2A. SECTION/UNIT

SUPERFUND / SITE ASSESSMENT

**3. LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR, ZONE 15 NORTH, METERS)**

UTM Easting 476987.217 UTM Northing 4119153.843

**4. HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)**

Global Positioning System (GPS)		Interpolation	
Static Mode	G1	Source Map Scale: 1:24,000 1:100,000 Other	
Dynamic Mode (Kinematic)	G2	Topographic Map or DRG	I1
Differential Post Processing	G3	Aerial Photograph or DOQQ	I2
Precise Positioning Service	G4	Satellite Imagery	I3
Signal Averaging	G5	Interpolation Other	I0
Real Time Differential Processing	G6		

**5. HORIZONTAL ACCURACY ESTIMATE**

GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	± _____ Feet or ± _____ Meters	
EPE	± _____ Feet or ± _____ Meters		
PDOP	2		

**6. HORIZONTAL REFERENCE DATUM**

All GPS readings must be referenced to NAD 83

Interpolation Datum: NAD 83 or NAD 27

**7. MANUFACTURER OF GPS RECEIVER**

CMT GARMIN LOWRANCE TRIMBLE OTHER

**7A. MODEL OF GPS RECEIVER**

GEOXT 2008 SERIES

**8. COORDINATE DATA SOURCE**

Description	Code	Description	Code	Description	Code	Description	Code
SERO	D2	PDWB	N2	GSRAD	P2	Dun & Bradstreet	DB
SWRO	D3	SWCP	N3	LSP	P3	EPA Headquarters	HQ
KCRO	D4	SWMP	N4	Kansas City Local Agency	L1	EPA, Region 7	R7
NERO	D5	EAO/TAP	N5	Springfield Local Agency	L2	Private Sector	PV
SLRO	D6	WPCB	N6	St. Louis City Local Agency	L3	Regulated Entity	RE
APCP	D7	DEQ Admin.	N7	St. Louis County Local Agency	L4	Tribe	TR
ESP	D8	SHPO	N8	MoDNR	M1		
HWP	D9	EC	N9	Contractor	CR		
LRP	N1	DSP	P1	Citizen	CT		



9. DATA COLLECTOR AND DATE		DATE COLLECTED	
YOUR NAME (PLEASE PRINT) CHINWE		NDURUKA	
10. REFERENCE POINT (Mark the feature where the locational data was collected. If needed, use box 11, Location Comments to provide enough information so someone could return to the collection site feature.)			
Reference Point	Code	Reference Point	Code
Indoor Air	AI	Outfall Pipe	OP
Air Monitoring Station	AM	Pile	PL
Air Release/Stack	AS	Pumping Station	PS
Air Vent	AV	Radioactive Source	RA
Ambient Air	AO	Road	RD
Building	BL	Railroad	RR
Bridge	BR	Soil Boring Sampling	SB
Buried Waste/Waste Pit Area	BW	Species of Conservation Concern	SC
Cave Entrance	CE	Sediment Sampling	SD
Center of Facility or Site	CF	Southeast Corner of the Facility or Site	SE
Center of Operations	CO	Soil Gas	SG
Containers	CT	Stratigraphic Test Hole – Oil & Gas	SH
Drums	DM	Surface Impoundment	SI
Described by Site Name	DS	Seep Area	SP
Exploratory Hole (Mineral Prospect)	EH	Spring	SR
Entry Point (Water enters distribution system)	EP	Soil Sampling	SS
Ecological Research Plot	ER	Surface Water Sampling	ST
Equipment Point of Use	EU	Southwest Corner of the Facility or Site	SW
Foundation Test Hole	FH	Tank	TK
Groundwater Sampling	GS	Water Treatment Plant	TP
Institutional Control	IC	Transfer Station	TS
Impacted Groundwater	IG	Abandoned Well	WA
Intersection (Road, Pipe, Street, Etc.)	IN	Coal Bed Methane Well	WB
Raw Water Intake Structure	IP	Industrial High Capacity Well	WC
Impacted/Contaminated Soil/Spill	IS	Dry Oil or Gas Well	WD
Infectious Waste	IW	Return Well	WE
Land Survey Corners	LC	Monitoring Well	WG
Loading Facility or Dock	LD	Heat Pump Well	WH
Landfill	LF	Irrigation Well	WI
Lagoon or Pond	LS	Drinking Water Well	WK
Main Office/Admin Building	MA	Gas Monitoring Well	WM
Main Access/Entrance/Gate	MG	Natural Gas Well	WN
Missouri Land Survey Monument	MM	Petroleum Well	WP
Material Recovery Facility	MR	Reconstruction Well	WR
Northeast Corner of the Facility or Site	NE	Class II Injection Well	WS
Northwest Corner of the Facility or Site	NW	Class V Injection Well	WT
Outcrop	OC	Vertical Well	WV
Descriptive Comments (use Location Comments below) and code as DC			
11. LOCATION COMMENTS (If needed, further describe the feature represented by the Reference Point.)			
DRIVE-IN AREA NORTH OF LOADING ENTRANCE ON PYTHIAN ST.			



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

[www.dnr.mo.gov](http://www.dnr.mo.gov)

### MEMORANDUM

DATE: June 14, 2012

TO: Solo Cup Manufacturing Facility File

FROM: Chinwe Ndubuka, Environmental Specialist<sup>C.N.</sup>  
Hazardous Waste Program, Division of Environmental Quality

SUBJECT: Site visit at Solo Cup Manufacturing Site, Greene County, June 6, 2012

On June 6, 2012, Chinwe Ndubuka from the Missouri Department of Natural Resources (Department), Hazardous Waste Program, Superfund Section (HWP/SPF) visited the site of the Solo Cup Company's former Springfield manufacturing facility as part of a Pre-Comprehensive Environmental Response, Compensation, and Liability Information System (Pre-CERCLIS) Site Screening investigation. The purpose of the site visit was to gain familiarity with the site which could be helpful in identifying possible sources of non-petroleum based contamination and in planning potential sampling events.

The facility is located at 1100 North Glenstone Avenue in Springfield, Missouri. Ms. Ndubuka arrived at the site at approximately 0913 and entered the property through the loading entrance on East Pythian Street. Mr. John Rohde of Bureau Veritas North America, Inc., Solo Cup Company's environmental consultant, was present at the site. Mr. Alan Stufflebean, who identified himself as a maintenance worker who worked at the Solo Cup manufacturing facility since 1985, was also present at the site. Weather conditions were sunny, clear skies with few thin clouds, light winds and temperatures approximately 70 °F. Observations made during the site visit are also documented in the attached site sketch and photographic log.

The facility can be viewed as occupying the northeast, northwest and southeast quadrants of a rectangular lot. Going counterclockwise, the property is bounded on the north by East Bergman Street, on the west by North Glenstone Avenue (to its intersection with East Pythian Street), on the south by East Pythian Street, which ends at a driveway running south along the west boundary of the southern quadrant. The southern quadrant is bounded on the south by East Chestnut Street. The southern quadrant is bounded on the east by a commercial property. The north property is bounded on the east by East Bergman Street. Commercial businesses AAMCO



Transmissions and Hertz, and an office building for Q & Company were observed north of East Bergman Street. Evangel College occupies land west of North Glenstone Avenue. The commercial building east of the south property was reported to be formerly leased by Solo Cup as a warehouse. Access to most of the Solo Cup property including the external loading and storage areas is restricted by wire fencing and gates.

Mr. Rohde toured the facility with Ms. Ndubuka and identified monitoring wells and other features noted in the Phase I and Phase II Environmental Site Assessment (ESA) reports prepared by Bureau Veritas North America, Inc. in 2010. Ms. Ndubuka referenced the Phase I ESA property plan during the site visit. An unmarked copy is attached. The ESAs were conducted in association with the sale of the property to its current owner. (The Solo Cup Company's Annual Report filed with the United States Securities and Exchange Commission on March 17, 2011 states that the company sold the Springfield manufacturing facility in December 2010 and leased it back through August 2011 at which time the company expected to have fully decommissioned the facility). The interiors of buildings on the northern quadrants were toured on a golf cart driven by Mr. Stufflebean.

Building structures on the northern quadrants, where manufacturing operations occurred, consist of four buildings conjoined in an 'n' shape. The buildings are numbered 1, 2, 3 and 4 in the ESAs. An enclosed hallway connects Building 4 to the conjoined Buildings 5 and 6 on the south property. Mr. Rohde stated that the two conjoined buildings on the south property have been leased out.

A vacant concrete pad that used to bear aboveground storage tanks (ASTs) was observed in the east half of the area south of Building 1. Circles indicated where tanks used to stand (Photographs 1-3). According to the Phase I ESA, the following ASTs were stored south of Building 1, but were not observed during the June 6, 2012 site visit: Twenty-four 10,000-gallon tanks used to store wax, one 4,000-gallon container for No. 2 fuel oil, and one 500-gallon tank (within a concrete berm) for mineral spirits. Mr. Rohde noted an area immediately east of the concrete pad which had been excavated and filled in with gravel (Photographs 1 and 2). During the Phase II ESA, petroleum-based product was encountered in this location in the vicinity of former No. 6 fuel oil underground storage tanks. Two red 10,000-gallon ASTs used to store No. 2 fuel oil were observed within a concrete dike south of the ASTs concrete pad (Photograph 1). A 250,000-gallon water tank was located west of the AST area. A well house encompassing an industrial high capacity well was located south of the water tank and immediately north of the property fence along East Pythian Street. A series of chillers were also observed south of Building 1 (Photographs 1-3).

When asked about the location of two water softener brine pits, Mr. Stufflebean indicated an area adjacent to the south wall of Building 1 with recently paved concrete (Photograph 4). Mr. Stufflebean explained that the concrete-walled brine pits had been cleaned out, filled in with



gravel and paved over as required by the sale of the property. Ms. Ndubuka measured the location of the brine pits using a global positioning system (GPS) Trimble GeoXT 2008 Series device (Photograph 7). The Trimble recorded the location as Northing 4119159.839 m, Easting 476950.339 m, North America Datum of 1983, UTM zone 15N. Mr. Stufflebean showed Ms. Ndubuka and Mr. Rohde water softener equipment inside the boiler room on the other side of the wall (Photograph 5). Mr. Stufflebean was not sure of the brand of salt used but said that the softener equipment had not been used in over a year. The water softener and boilers in the room were the only equipment observed within the buildings on the north property.

Within the northern quadrants, the ground south of Buildings 1 through 4, from the ASTs pad going eastward to the building connector, was paved. Some oily stains were observed on the asphalt. A few feet east of the ASTs storage area, Mr. Rohde identified a strip of paving with manholes as the location of an underground tunnel used to transport utilities to the facility (Photograph 2). Mr. Rohde identified a number of monitoring wells southeast of Building 1 and in the central drive-in area north of the loading entrance. The wells are flush mount completed (Photograph 6). A January 2011 Monitoring Well Installation Report states that a total of 10 groundwater monitoring wells were installed by Bureau Veritas North America, Inc. in November 2010, including three monitoring wells located inside Building 1.

Ms. Ndubuka measured the location of the "center of operations" in the drive-in area north of the loading entrance. The Trimble recorded the location as Northing 4119153.843 m Easting 476987.217 m, North America Datum of 1983, UTM zone 15N (Photograph 7). Two rail spurs off the St. Louis-San Francisco Railway, which branches off the Burlington Northern and Santa Fe Railway, trend north through the north property to the central receiving area in Building 1 and to the shipping area in Building 4 (Photographs 7 and 8). The portion of the spur inside Building 4 ran alongside a raised platform, and was observed to be filled in with large rocks and/or concrete rubble. Mr. Stufflebean explained that the spur would be filled in to create a loading ramp and access into Building 4 in the event that the connector, currently used for access, is closed off or removed. Later review of aerial maps give the impression that a rail spur used to run to the southeast corner of Building 1 in the area previously described as having a tunnel.

A vacant waste shelter was located east of the Buildings 4 and 5 connector (Photograph 9). The waste shelter consisted of a bermed concrete floor estimated to be 100 feet by 50 feet, surrounded by a wire fence and gate, and covered with a metal roof. A warning sign was posted on the fence. Standing water was observed in the southwest corner of the shelter and adjoining bermed collection sump noted in the Phase I ESA (Photographs 10-11). The floor of the waste shelter was marked with yellow painted lines. 1210 SLUDGE, 1210 LIQUID, 128? SLUDGE, and 128? LIQUID were written on the floor in yellow paint. The fourth digit of the last two labels (identified in this memo as '?') was faded out but seemed to be '4'. Mr. Stufflebean did not know what the painted words and numbers meant. A GPS measurement was taken immediately south of the waste shelter. The Trimble recorded the location as Northing



4119117.541 m Easting 477124.326 m, North America Datum of 1983, UTM zone 15N. The area immediately north of the waste shelter was vacant and covered with grass. According to the Phase I ESA, a fuel oil AST used to be located in the grassy area. A paved parking lot was located north of the grass and ran parallel to Buildings 4, 3 and 2. Two propane tanks were observed a few feet northeast of the waste shelter.

With the exception of the boiler room in the south portion of Building 1, the buildings on the northern quadrants were observed to be vacant and cleaned out. Mr. Stufflebean stated that Solo Cup was in the process of cleaning, and painting walls and beams for the new owner. Grooves and pits were filled in as required by the sale and were observed as cement patches on the floor. Ms. Ndubuka asked where solvent was used to attach cups to their bases and where metal parts washers were located. The Phase I ESA mentioned the use of solvents and metal parts washers at the site. Mr. Stufflebean stated that solvents were not used to attach the cups to their bases. He said that the cups were heat attached and that small parts washers were located throughout the building. Ms. Ndubuka had misinterpreted what was written in the Phase I ESA about solvent use at the facility.

Mr. Stufflebean identified the former print shop located in the north half of Building 1 (Photograph 12). He stated that old oil-based printer presses had been located along the north wall of the room and the north half of the east and west walls. The floor was gridded out with yellow painted lines but without printed words or numbers. Mr. Stufflebean stated that the grid showed the staging areas used throughout the manufacturing process. He said that at one time about 6 million foam cups and about 20 million soufflé cups were manufactured per day. The room and equipment had not been used in about 10-15 years. Mr. Rohde identified two monitoring wells in the south half of the former print shop. Floor drains were not observed in the former print shop.

The print shop was located immediately east of the former print shop. The print shop was much smaller than the former print shop and observations were made by the headlights of the golf cart. Mr. Stufflebean stated that three water-based printer presses used to be located in the middle of the room. He pointed out little rail tracks in the floor which had served to move material. Floor drains were not observed in the print shop. A strip of offices were observed along a portion of the west wall of Building 1.

Property north of the buildings on the northern quadrants was covered by grass and vacant AST concrete pads (Photograph 14). Fencing divided the area into two areas. Sixteen circles were counted on the concrete pad within one fenced area. The Phase I ESA noted that 14 ASTs were used to store polystyrene resin pellets and two ASTs stored wax on the north side of the building. According to the Phase I ESA, carbon dioxide and Z2 refrigerant were also stored in ASTs north of the building.

The property west of Building 1 and east of North Glenstone Avenue serves as the public entrance to the facility. It is not fenced (Photograph 14). The property west of Building 1 is covered by a grass lawn, two small public parking areas, and a side walk that leads to the public entrance of the building. Structures were not observed in the northwest corner of the property which, according to the Phase I ESA, was historically used as the Wagon Wheel Restaurant and Filling Station (Photograph 14). The southwest corner of the northern quadrants was also grass covered. Wire fencing restricts access to transformers and another AST concrete pad located by the south wall of Building 1 (Photograph 15). Ms. Ndubuka and Mr. Rohde did not enter the buildings on the southern quadrant but observed a parking lot and grass lawn that had been developed south of Building 6. At the time of the Phase I ESA, the property south of Building 6 was referred to as undeveloped land.

Ms. Ndubuka departed the site at approximately 1130.

CN:js

Attachments





Photograph 1

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802

Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of vacant concrete pad in aboveground storage tanks (ASTs) area south of Building 1 on property north of East Pythian Street. Two red ASTs on left side of photograph store No. 2. fuel oil. Arrow points to gravel placed after excavation of released petroleum product. In the background from left to right are a well house, water tank and chillers. Photo taken north of south loading entrance facing west.



Photograph 2

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802

Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

This photo captures a portion of Photograph 1 and south end of Building 1. Strip of paving running across photo indicates tunnel carrying utilities. This also appears to be the area of an old rail spur to Building 1. Photo taken facing west.



Photograph 3

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802

Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

Close up view of circles left by former ASTs south of Building 1. Note well house located left of water tank. Photo taken facing west.



Photograph 4  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of south wall of Building 1 shown in Photograph 2. Lighter colored pavement next to wall is the location of two below grade concrete brine (water softener) pits, now cleaned out, filled in with gravel and paved over. Note global positioning system (GPS) Trimble device over new pavement. Photo taken facing north.



Photograph 5  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of inactive water softener equipment inside boiler room in south end of Building 1. Photo taken facing south.



Photograph 6  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of monitoring well #5 located east of southeast corner of Building 1.

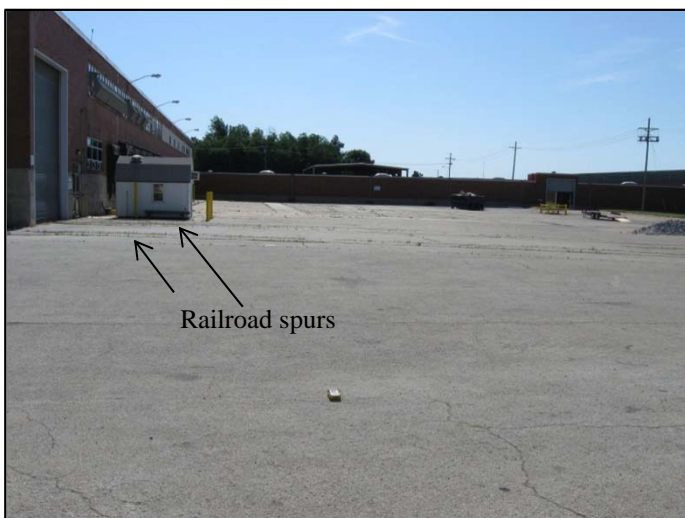




Photograph 7

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of receiving area north of loading entrance. Railroad spur runs (in shadow) along Building 4 on right side of photo. Note yellow GPS Trimble device in foreground recording location. Photo taken facing north.



Photograph 8

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of area south of Building 4. Trimble device is in same location as in Photograph 7. Arrows point to railroad spurs; one runs beside Building 4 to receiving area and the other ends inside Building 4. In the background is enclosed hallway that connects Buildings 4 and 5. Photo taken facing east.



Photograph 9

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of waste shelter located east of Buildings 4 and 5 connector. Photo taken facing west.





Photograph 10

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

Close-up view of water logged sump at southwest corner of waste shelter. Photo taken facing west.



Photograph 11

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of yellow paint marking "1210 SLUDGE" on floor in southwest corner of waste shelter. Photo taken facing south.



Photograph 12

Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of former print shop inside Building 1. Photo taken facing west.



Photograph 13  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of former silos area north of Building 1. Photo taken from north fence facing south.



Photograph 14  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of northwest corner of property, the historical location of Wagon Wheel Restaurant and Filling Station. Photo taken from East Bergman Street facing south.



Photograph 15  
Solo Cup Manufacturing Facility Site  
Greene County  
MO, 65802  
Photo taken 06/06/2012 by  
Chinwe Ndubuka,  
DEQ, HWP, SF

View of southwest area of property north of East Pythian Street. Pad mounted transformers are located south of Building 1. Arrow points to concrete pad on right side of fence. Photo taken from street facing north.

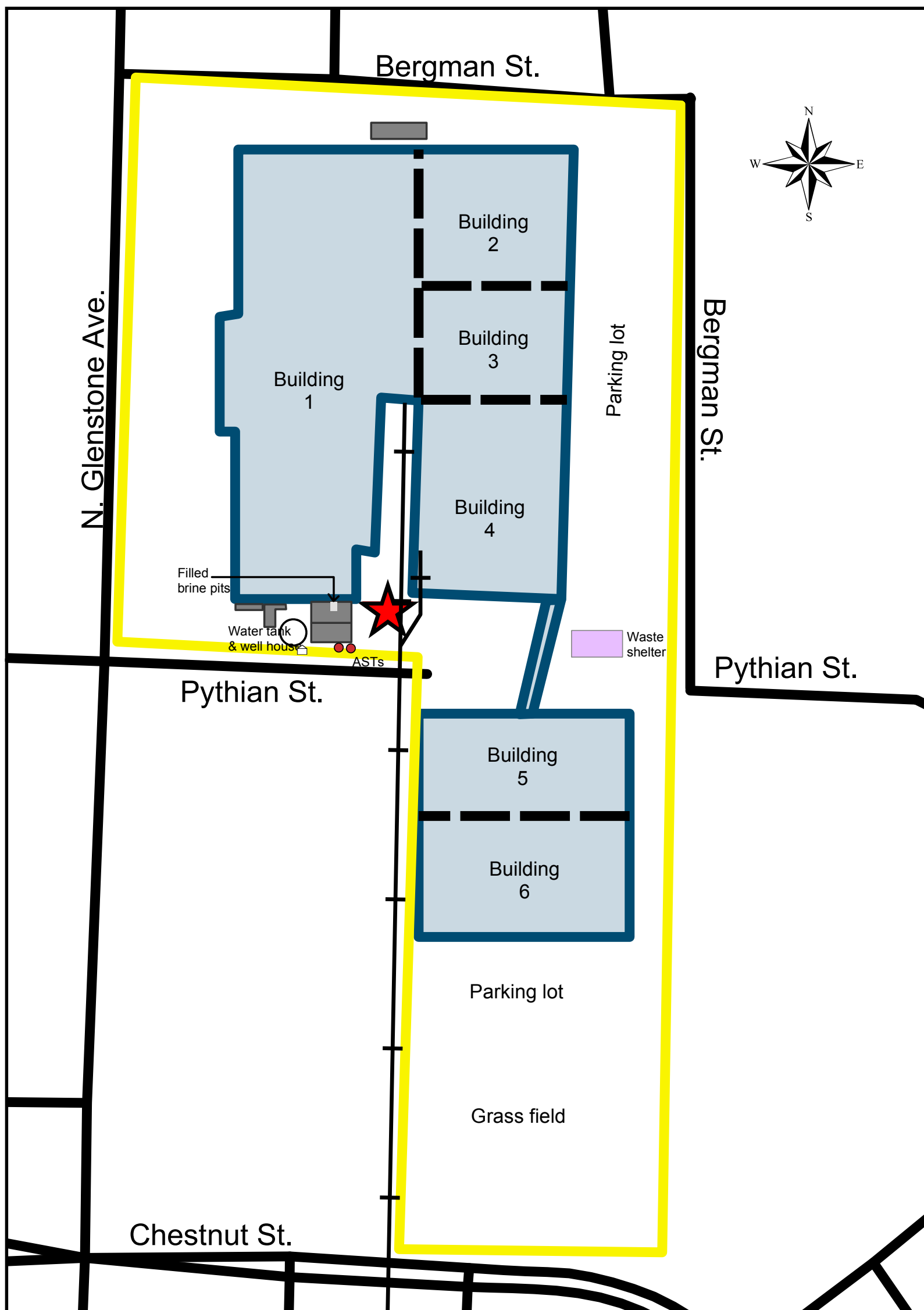
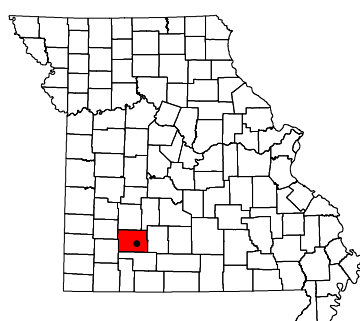
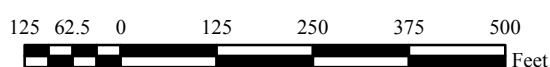


Figure 1  
Site Sketch  
Solo Cup Manufacturing Facility Site  
1100 North Glenstone Avenue  
Springfield, Greene County, MO 65802



**Legend**

- ★ Center of Operations
- +— Railroad
- Road
- Property Boundary
- ▒ Facility Building
- Concrete Pad

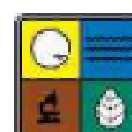


Site sketch created June 14, 2012 by Chinwe Ndubuka

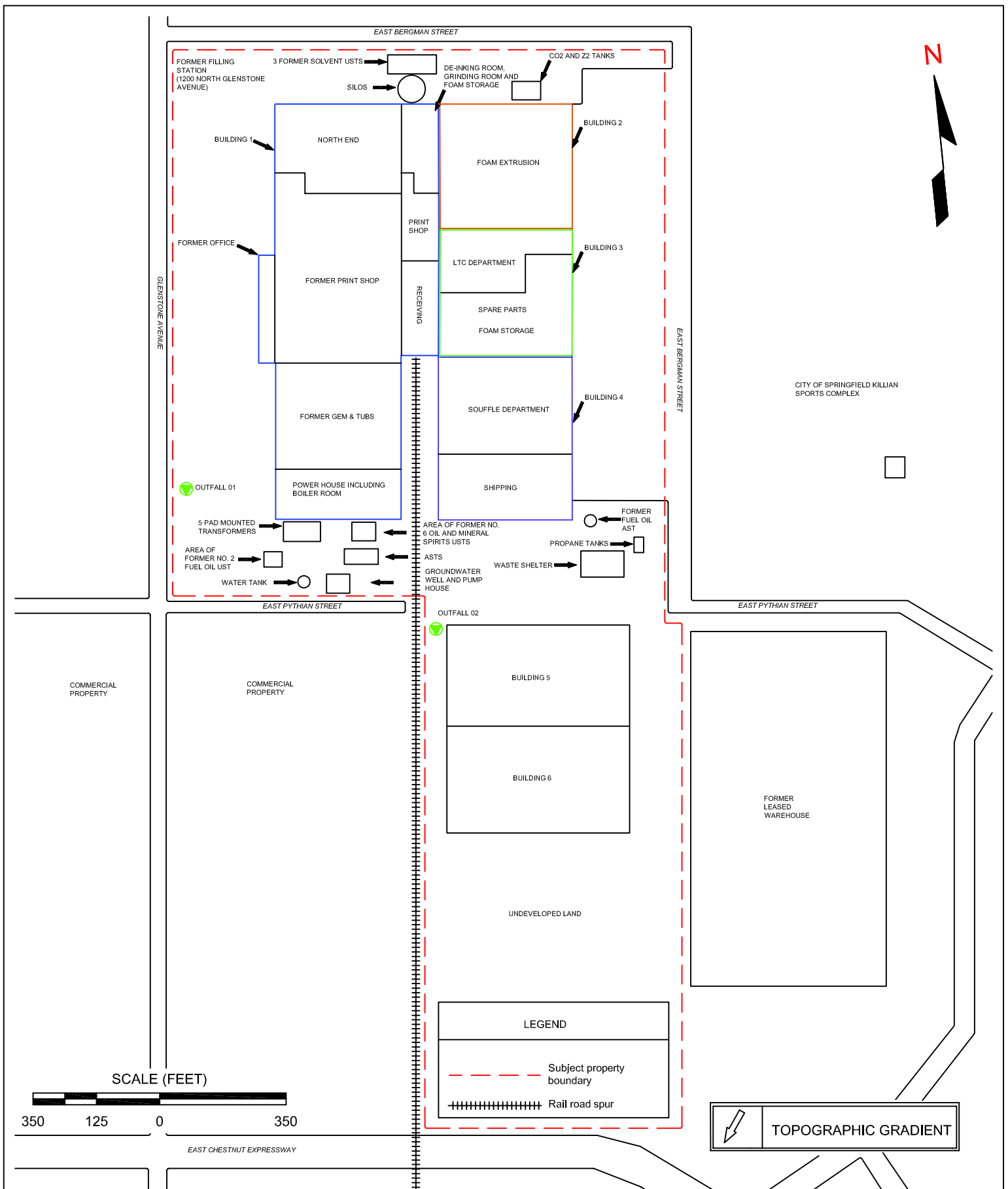
This map can be found at: M:\Superfund\Solo Cup\Site Sketch.mxd

Base Map: National Agricultural Inventory Program 2010.  
Site sketch based on base (aerial) map, Bureau Veritas North America, Inc.'s Subject Property Plan, August 2010, and observations made during June 6, 2012 site visit.

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.



**Missouri Department of  
Natural Resources**  
Division of Environmental Quality  
Hazardous Waste Program



**Figure 2**  
**Subject Property Plan**



**Bureau Veritas North America, Inc.**  
 Health, Safety, and Environmental Services  
 165 South Union Blvd., Suite 310  
 Lakewood, Colorado 80228  
 303-988-2585 Telephone  
 303-988-2583 Fax

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Eisenberg LLP**

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**Solo Facility**  
**1100 North Glenstone Avenue**  
**Springfield, Missouri**

Project No. 10010-010096.00

Last Revision  
August 2010



STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sam Parker Pauley, Director

www.dnr.mo.gov

JUL 19 2012

Ms. Lisa Zebovitz  
Neal, Gerber, & Eisenberg L.L.P.  
Suite 1700  
Two North LaSalle Street  
Chicago, IL 60602-3801

**No Further Action Letter – Non Residential**

RE: Sweetheart Cup Company, 1100 North Glenstone, Springfield, Greene County, MO  
ST0002709, R0008573 – (Easting: 476995.125212, Northing: 4119309.62684)

Dear Ms. Zebovitz:

Congratulations on the completion of this remediation project! The Missouri Department of Natural Resources' Hazardous Waste Program, Tanks Section, thanks you for your efforts to responsibly address this petroleum release.

The Department reviewed the March 21, 2012, response to the Department's January 31, 2012, comment letter, revised risk assessment and free product recovery report. The Department received these documents on March 27, 2012, from Bureau Veritas North America Incorporated. These reports adequately address the concerns of the Department and evaluate the risks to human health and the environment from one or more petroleum releases(s) and summarize corrective actions taken to address those risks.

Based upon a review of the site information and these reports, the Department has determined that "No Further Action" (NFA) is required related to the petroleum chemicals of concern identified in the environmental site assessment reports. This NFA letter relates to chemicals regulated under 319.100 through 319.139, Revised Statutes of Missouri.

This determination is also contingent upon the following conditions being met now and in the future:

1. Current and continued non-residential use of the property indicated above. In other words, prior to the construction of a structure for residential use, further investigation and evaluation is needed.
2. No current or future domestic consumption of the groundwater at the property indicated above. In other words, prior to construction of a drinking water well on the property, further investigation and evaluation is needed.
3. It is our understanding the responsible party is working in conjunction with Superfund to evaluate contamination of non-petroleum chemicals detected at the site. Please continue to work with the Department's Hazardous Waste Program, Superfund Section.

Ms. Lisa Zebovitz  
Page Two

Please be aware that 10 CSR 26-2.080(3)(B) provides: *"if subsequent information becomes available to indicate that contamination may be present at the site at levels which may threaten human health or the environment, the Department may require additional investigation or site characterization and/or corrective action."*

The file for this site is maintained by the Department's Hazardous Waste Program, 1730 East Elm Street, Jefferson City, Missouri 65101. To view this file or obtain copies, please contact the Custodian of Records at (573) 522-1181, e-mail [custodianofrecord@dnr.mo.gov](mailto:custodianofrecord@dnr.mo.gov), or visit our Web site for additional information at <http://www.dnr.mo.gov/sunshinerequests.htm>.

All monitoring wells associated with the site must be closed in accordance with well construction and abandonment regulations (10 CSR 23-4.080). If you have any questions regarding well abandonment, please contact the Department's Wellhead Protection Section at (573) 368-2100.

Please direct questions regarding the Petroleum Storage Tank Insurance Fund to the Fund Administrator at (573) 761-4060 or (800) 765-2765.

Again, we appreciate your efforts to address contamination at this site and for helping to protect our valuable natural resources. If you have any questions, please contact the project manager for this site, Ms. Vickie Olive, at the Hazardous Waste Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or at (573) 751-6822.

Sincerely,

HAZARDOUS WASTE PROGRAM



Ken Koon, Chief  
Tanks Section

KK: vol

c: Ms. Chinwe Ndubuka, Superfund Section  
Petroleum Storage Tank Insurance Fund  
Mr. John Rohde, Manager of Site Assessments and Due Diligence,  
Bureau Veritas North America Inc.  
Wellhead Protection Section



STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

**MEMORANDUM**

DATE: August 23, 2012

TO: Chinwe Ndubuka, Environmental Specialist  
Hazardous Waste Program,  
Division of Environmental Quality (DEQ)

FROM: Peter Bachle, Geologist *Peter J. Bachle*  
Geological Survey Program,  
Division of Geology and Land Survey (DGLS)

SUBJECT: Geohydrologic Summary of Solo Cup Manufacturing Facility Site

LOCATION: C½, W¼, Section 17, Township 29 North, Range 21 West, Springfield 7.5-  
Minute Quadrangle, Greene County, Missouri  
Approximately 37° 13' 07" North Latitude and 93° 15' 34" West Longitude



**LOCATION AND PHYSIOGRAPHIC SETTING**

The Solo Cup Manufacturing Facility site is located in central Springfield, Missouri, on the eastern side of the North Glenstone Avenue and Pythian Street intersection. The site address is 1100 North Glenstone Avenue. The site lies on the southern slope of a low rolling hill. Approximate coordinates for the site are 37° 13' 07" north latitude and 93° 15' 34" west longitude. Elevation at the site ranges from approximately 1,320 to 1,363 feet above mean sea level (USGS, 1996).

The Solo Cup Manufacturing Facility site lies on the eastern border of the Springfield Plateau of the Ozark Plateau sub-province of the Interior Highlands physiographic province in Missouri. This area is characterized by rolling upland hills with low relief (Fenneman, 1938).

**GROUNDWATER PATHWAY**

Mississippian-age limestone lies beneath the site and constitutes the Springfield Plateau Aquifer that produces up to 30 gallons per minute. The Springfield Plateau Aquifer is known to provide water for 294 of the 376 wells within 4 miles of the site. This aquifer is roughly 200 feet thick beneath the site.

The Ozark Confining Unit is roughly 40 feet thick in this portion of Missouri. This confining unit forms a leaky aquitard that separates the Springfield Plateau and Ozark aquifers. Approximately 70% of the recorded wells within 4 miles of the site have open boreholes connecting the Springfield Plateau Aquifer with the underlying Ozark Aquifer. Also, the Pearson Fault System is mapped to within one mile of the site. This northwest-southeast trending fault system is comprised of several en-echelon faults with individual offsets of 10 to 20 feet (McCrackin, 1971). Within the fault zone, there is sufficient offset to allow interconnection between aquifers. Within 4 miles of the site, 336 wells penetrated the Ozark Confining unit. Of these wells, 74 are cased through the confining unit.

Ordovician- and Cambrian-age dolomite and sandstone beneath the site constitute the Ozark Aquifer (Imes and Smith, 1990). This aquifer is known to provide water for 336 of the 376 recorded non-monitoring wells and produces up to 800 gallons per minute within 4 miles of the site. Eight wells on record lack sufficient data to determine which aquifer is used. Based upon information from the Public Drinking Water Program, Water Information Management System (WIMS), and Logmain databases, the local wells do not draw water from greater than 1,740 feet in depth. Cambrian-age dolomite and shale form the St. Francois Confining Unit that separates the Ozark Aquifer from the underlying St. Francois Aquifer. According to well records, the St. Francois Aquifer is not used within 4 miles of the site.

The DGLS databases contain records of one municipal, three community public, two non-community public, thirty-four industrial, and 336 domestic wells within a 4-mile radius of the Solo Cup Manufacturing Facility site. The nearest domestic drinking water well on record is located approximately 0.4 mile south of the site. The nearest public well on record is on the site. Figure 1 illustrates the approximate locations of the 376 known non-monitoring wells within a 4-mile radius of the site. Table 1 lists specific technical attributes (total and casing depth, static water level, date drilled, yield, etc.) of the non-monitoring wells found within 4 miles of the site. Table 3 lists the 54 known springs within 4 miles of the site.

Prior to 1987, registry of private wells was not required. Therefore, existing older wells may not be included in the database. Also, proper well registration may not have been submitted for some wells. Because of these exceptions, the databases may not accurately depict all of the water well usage in this area. Since a public water supply district covers most of the well survey area, most residential homes and businesses are likely to not have a water well.

Table 2 lists the geohydrologic properties (thickness, lithology, nature of porosity and permeability, hydraulic conductivity, and hydrologic unit) of the strata beneath the site. The stratigraphic unit descriptions provided in Table 2 are based the logged site well (Logmain #012653, PDWP #102005).



## **Soil and Regolith**

Soil and Regolith: The soil under the Solo Cup Manufacturing Facility site is the Creldon silt loam. The soil composition ranges widely with roughly 15 to 70 percent clay (Hughes, 1982). The unconsolidated sediments are roughly 30 feet thick beneath site (Logmain, 2012). The regolith is comprised of residuum derived from the chemical weathering of Mississippian-age bedrock. The result is silty clay that contains residual limestone and chert cobbles.

### ***Hydrology***

Creldon silt loam is acidic to neutral (pH 4.5 to 7.3) and hydraulic conductivity is roughly  $1.4 \times 10^{-3}$  to  $4.2 \times 10^{-5}$  centimeters per second (cm/sec) (Hughes, 1982). Groundwater flow direction within the overburden is unknown at the site but is likely controlled by extensive karst development within the bedrock. However, topographic relief may lead to a southeast and/or southwest overburden groundwater flow.

## **Springfield Plateau Aquifer**

### ***Stratigraphy***

Mississippian-Age Limestone: The Mississippian-age rocks beneath the site are divided into the Burlington-Keokuk Limestone, Reeds Spring-Elsey Formations, and Pierson Limestone. These formations consist of fossiliferous limestone and chert (Thompson, 1995). The Mississippian-age rocks in this aquifer beneath the site are approximately 200 feet thick. Dissolution of the shallow bedrock has resulted in well-developed karst features. These features can include uneven bedrock surfaces with cutters and pinnacles along with cave and sinkhole formation.

### ***Hydrology***

The hydraulic conductivity of the Springfield Plateau Aquifer is roughly  $7.8 \times 10^{-3}$  cm/sec (Imes and Smith, 1990). Due to the karstic nature of the formations, hydraulic conductivity, permeability, and gradient characteristics may vary dramatically over short distances. Within the 4-mile target area, thirty-two wells of record are completed solely within the Springfield Plateau Aquifer. Of the 376 recorded wells, 262 are open to both the Springfield Plateau and Ozark Aquifers.

There is no site specific groundwater flow data for the Springfield Plateau Aquifer. However, regional groundwater flow near the site within the Springfield Plateau Aquifer is toward the southeast. Depth to groundwater beneath the site is approximately 90 feet. The potentiometric surface of this aquifer is illustrated as an insert in Figure 1.

## **Ozark Confining Unit**

### *Stratigraphy*

Mississippian-Age Rocks: The Ozark Confining Unit beneath the site consists of the Mississippian-age Compton Limestone and Northview Formation. These formations are composed of argillaceous (silty) limestone (Logmain, 2012). The Compton Limestone and Northview Formation are roughly 40 feet thick beneath the site and form an effective barrier to the underlying Ozark Aquifer where they are not compromised by faults or open boreholes.

### *Hydrology*

The hydraulic conductivity of the Ozark Confining Unit ranges from  $1.0 \times 10^{-5}$  to  $5.0 \times 10^{-6}$  cm/sec (Imes and Emmett, 1994). Of the 376 known wells within 4 miles of the site, 336 penetrate this unit, of which 74 are cased through this unit.

## **Ozark Aquifer**

### *Stratigraphy*

Ordovician-Age Dolomite: The Ordovician-age rocks beneath the site are divided into the Cotter and Jefferson City Dolomites, Roubidoux Formation, and Gasconade Dolomite formations. The Cotter and Jefferson City Dolomites are primarily silty dolomite with a few, thin sandstone beds. The Roubidoux and Gasconade formations consist primarily of dolomite and cherty dolomite with occasional sandstone and cherty sandstone beds (Thompson, 1995). The Ordovician-age rocks beneath the site are roughly 820 feet thick.

Cambrian-Age Formations: The Cambrian-age Eminence and Potosi Dolomites consist of medium- to coarsely crystalline dolomite with nodular chert (Thompson, 1995). Porosity is mostly vug and intercrystalline types (Woody et al, 1996). The Cambrian-age rocks beneath the site are 350 feet thick.

### *Hydrology*

The hydraulic conductivity of the Ozark Aquifer ranges from  $1 \times 10^{-4}$  to  $1 \times 10^{-5}$  cm/sec (Davis, 1969; Imes, 1990). The Cotter and Jefferson City Dolomites lie on the less conductive end of this range. Of the wells of record within the 4-mile target area, 336 are known to be completed in the Ozark Aquifer.

The groundwater flow direction within this aquifer is not known. According to well data, the static water level within the Ozark Aquifer in the Springfield area is considerably lower (200 to 400 feet) than that of the overlying Springfield Plateau Aquifer.

## **St. Francois Confining Unit**

### ***Stratigraphy***

Cambrian-Age Formations: None of the wells in the 4-mile target area fully penetrate the Cambrian-age Derby-Doerun Dolomite and Davis Formation of the St. Francois Confining Unit. This sequence of alternating shale and argillaceous dolomite is greater than 155 feet thick within 4 miles of the site (Logmain, 2012).

### ***Hydrology***

The St. Francois Confining Unit is an effective barrier to downward groundwater movement (Imes, 1990). The Davis Formation may have a hydraulic conductivity as low as  $1 \times 10^{-8}$  cm/sec (Imes and Emmett, 1994).

## **KARST FEATURES**

Based upon ArcMap shape files, 96 sinkholes lie within 4 miles of the site. There are also 54 springs within 4 miles of the site. Based upon this information, the site lies within a karst area.

## **STRUCTURAL FEATURES**

Figure 2 illustrates the faults found within 4 miles of the site. The northwest-southeast trending Pearson Fault System is mapped to within one mile of the site. The site lies in a direct line with the terminal end of the mapped portion of the Pearson Fault System. Therefore, an unmapped portion of the Pearson Fault System may extend underneath the site. The fault system has 10 to 20 foot vertical en-echelon offsets that may lead to inter-connectivity of the shallow Springfield Plateau Aquifer and the deeper Ozark Aquifer. This may contribute to cross communication between aquifers.

## **SURFACE WATER PATHWAY**

### ***Potential Point of Entry (PPE)***

Surface water flows off the site toward the southeast. The southeastern flow travels roughly 0.2 mile before entering Jordan Creek. This is a potential point of entry (PPE) and is located in the NE $\frac{1}{4}$ , SW $\frac{1}{4}$  of Section 17, Township 29 North, Range 21 West. From the most proximal PPE, surface water flows approximately 5.6 miles southwest along Jordan Creek before joining Wilsons Creek. From this union, water flows nearly 9.4 miles west before reaching the 15-mile downstream target limit. This limit lies in the SW $\frac{1}{4}$ , NW $\frac{1}{4}$  of Section 24, Township 28 North, Range 23 West, Republic 7.5" quadrangle. Surface water also may leave this site and flow approximately 0.6 mile southwest before entering Jordan Creek. This is also a (PPE) located in the SE $\frac{1}{4}$  of Section 18, Township 29 North, Range 21 West.

Due to the extensive karst development and nearby sinkholes, surface water runoff may be internal. However, for surface water that does not enter the local karst system, the above information may apply.

### *Miscellaneous Surface Water Characteristics*

There are no known surface drinking water intakes within 15 miles downstream of the site. The site lies outside of a floodplain. Surface water drainage area upgradient from the site is less than 50 acres. The 2-year, 24-hour rainfall is approximately 3.9 inches (Weather Bureau, 1961).

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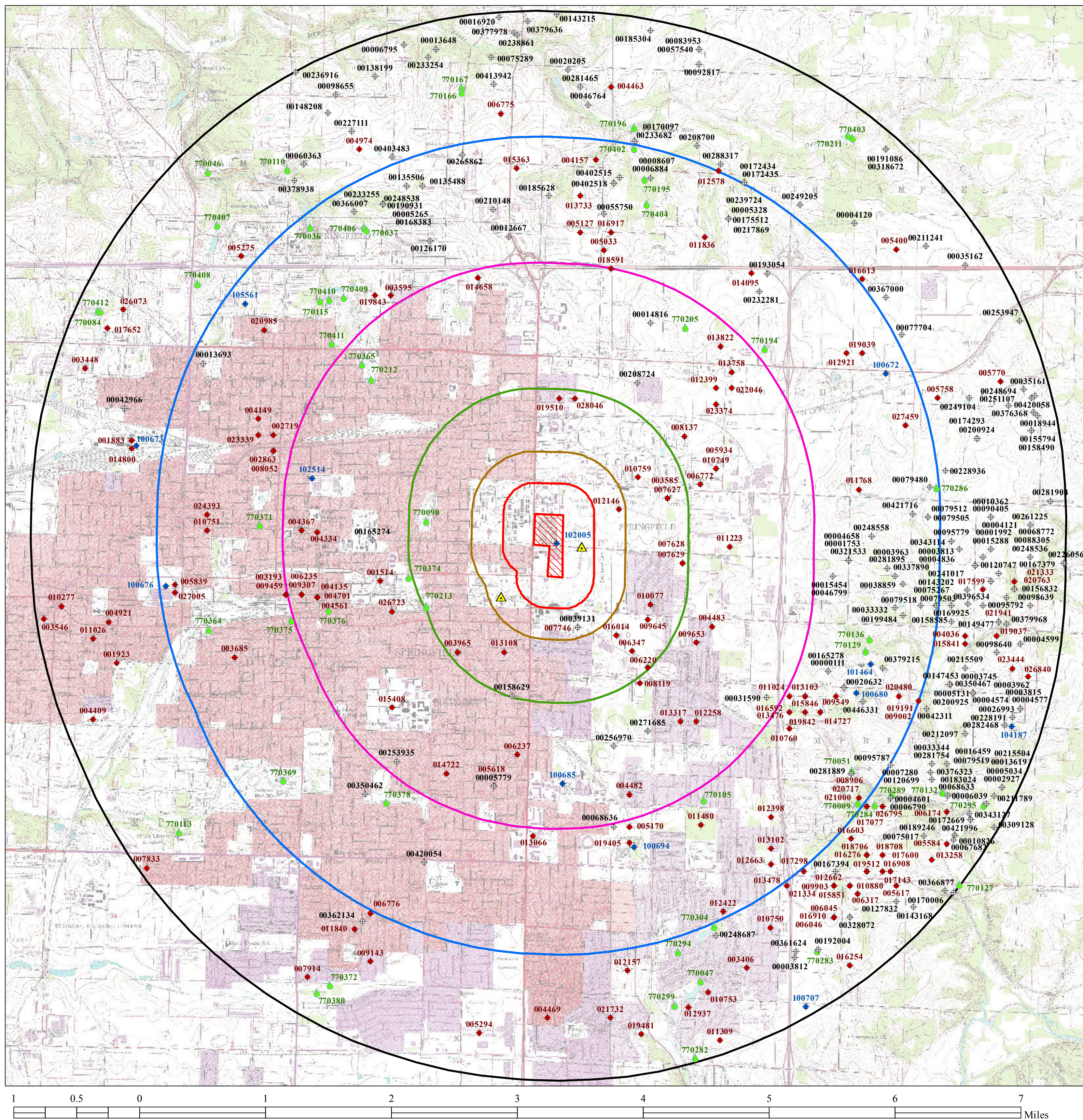
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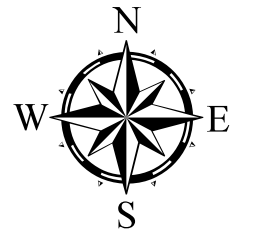
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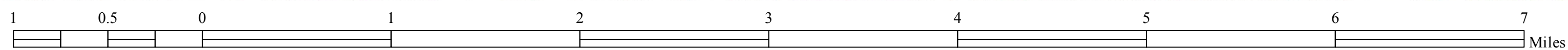
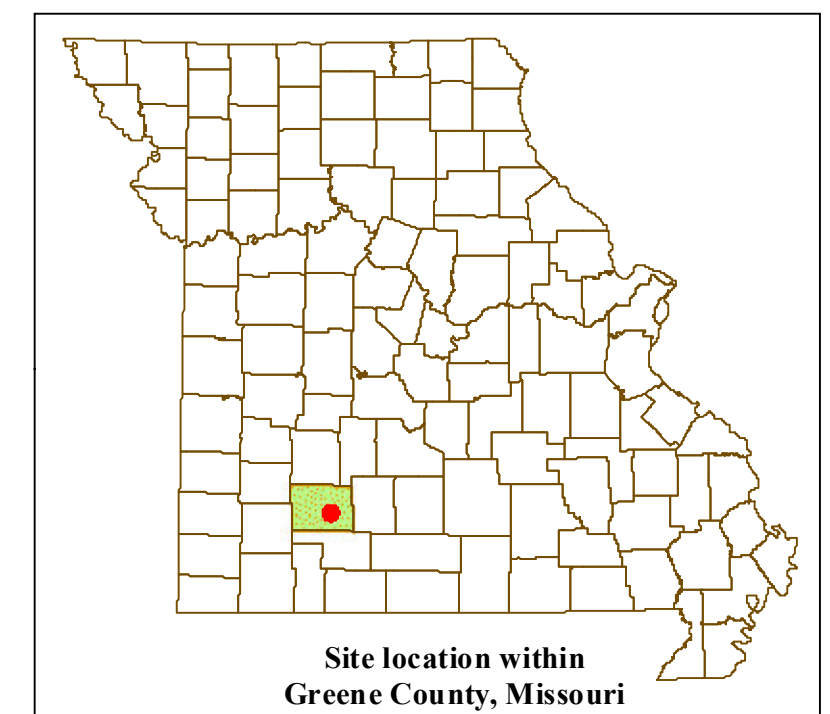
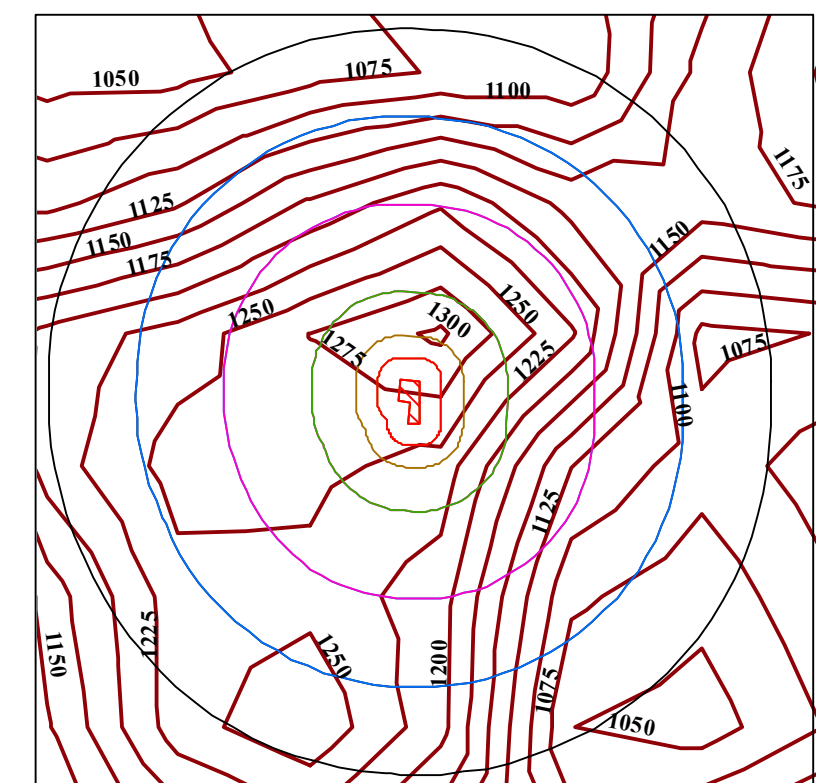
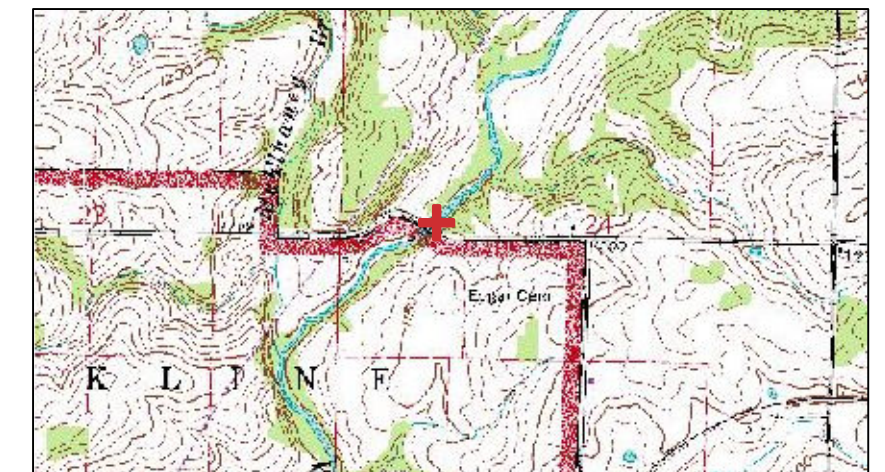
**Figure 1:**  
**Four-Mile Well Survey**  
**Solo Cup Manufacturing Facility Site**  
**Greene County, Missouri**  
**August 14, 2012**



- Target Limits**
- 0.25 Mile
  - 0.5 Mile
  - 1 Mile
  - 2 Mile
  - 3 Mile
  - 4 Mile

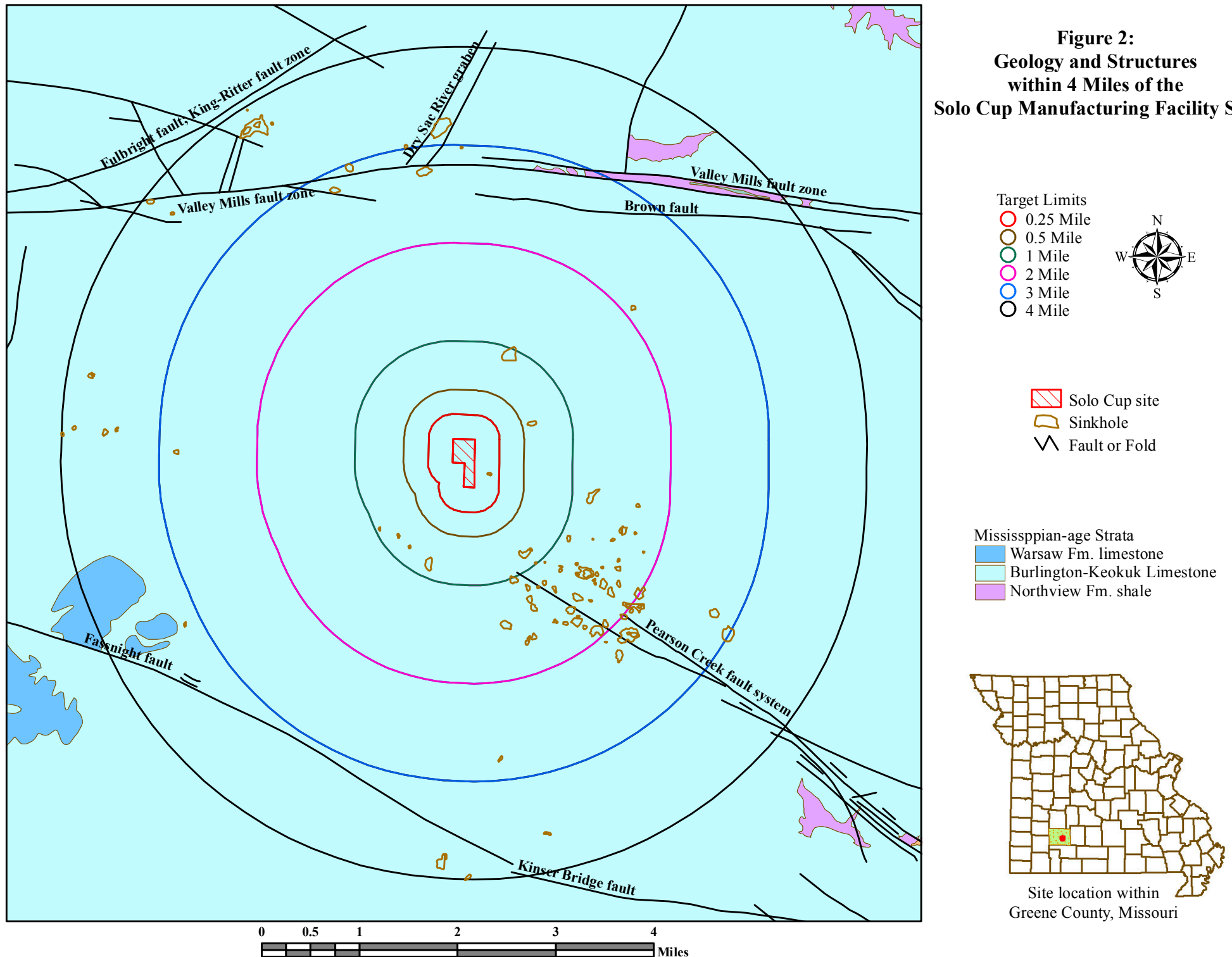


- Solo Cup Manufacturing Facility site
- Potential Point of Entry (PPE)
- Well from MDNR Public Drinking Water Program (PDWP)
- Certified well from the Well Information Management System (WIMS)
- Well from MDNR/DGLS sample well-log library (Logmain)
- Reported spring from DGLS database
- Groundwater elevation contour
- 15-mile downstream limit





**Figure 2:  
Geology and Structures  
within 4 Miles of the  
Solo Cup Manufacturing Facility Site**



**Table 1: Well Data for Solo Cup Manufacturing Facility Site**

Non-monitoring wells located within 4 miles of the Solo Cup site.

***0 to 0.25 Mile***

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
PDWP	102005	1256	401	--	340	1954	Industrial	Solo Cup Co.	Ozark	450

Wells found within 0 to 0.25 mile of the site: 1

***0.25 to 0.5 Mile***

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	39131	405	147	--	180	1990	Domestic	--	Springfield & Ozark	30
Logmain	7746	1162	15	1312	262	1942	Industrial	Springfield Packing Co	Springfield & Ozark	--
Logmain	12146	212	25	1296	155	1952	Domestic	Parker	Springfield Plateau	--

Wells found within 0.25 to 0.5 mile of the site: 3

***0.5 to 1 Mile***

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	158629	705	105	--	240	1996	Domestic	--	Springfield & Ozark	50
Logmain	3585	400	29	1366	--	1936	Domestic	McMullin	Springfield & Ozark	--
Logmain	3965	752	20	1327	285	1936	Domestic	Harrison	Springfield & Ozark	--
Logmain	6220	124	37	1352	93	1940	Domestic	Smith	Springfield Plateau	--
Logmain	6347	430	30	1335	135	1940	Domestic	Berg	Springfield & Ozark	--
Logmain	7627	675	400	1386	355	1941	Domestic	Player	Ozark	--
Logmain	7628	486	15	1361	306	1941	Domestic	Appleby	Springfield & Ozark	--
Logmain	7629	491	35	1370	312	1942	Domestic	Appleby	Springfield & Ozark	--
Logmain	9645	80	15	1349	20	1946	Domestic	Baker	Springfield Plateau	--
Logmain	10077	165	60	1338	50	1948	Domestic	Schafer	Springfield Plateau	--
Logmain	10759	430	20	1361	335	1947	Domestic	Keithley	Springfield & Ozark	--
Logmain	13108	755	675	1322	405	1954	Domestic	Thompson	Ozark	--
Logmain	16014	1210	965	1333	378	1957	Industrial	Welsh Packing Co	Ozark	--
Logmain	19510	489	235	1374	385	1960	Domestic	Hanks	Ozark	--
Logmain	28046	1570	--	1363	--	1977	Industrial	Pepsi Cola Co	Springfield & Ozark	--

Wells found within 0.5 to 1 mile of the site: 15

***1 to 2 Miles***

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
PDWP	100685	1600	385	--	140	1954	Industrial	Kraft Foods	Ozark	550
PDWP	102514	1600	450	--	364	1979	Industrial	General Council Assembly of God	Ozark	650
WIMS	5779	710	270	--	440	1988	Domestic	--	Ozark	40
WIMS	14816	650	152	1300	245	1989	Domestic	--	Springfield & Ozark	30
WIMS	31590	625	170	1370	240	1990	Domestic	--	Springfield & Ozark	45
WIMS	165274	740	--	--	--	1998	Domestic	--	Ozark	--
WIMS	208724	725	294	1370	200	1998	Domestic	--	Ozark	80



Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	253935	485	105	--	340	2000	Domestic	--	Springfield & Ozark	60
WIMS	256970	943	500	1360	--	2000	Domestic	--	Ozark	60
WIMS	271685	572	210	--	180	2001	Domestic	--	Springfield & Ozark	60
Logmain	1514	456	--	1355	--	1888	Industrial	Now City Ice Co.	Springfield & Ozark	--
Logmain	4135	1217	5	1275	231	1937	Industrial	Springfield Ice	Springfield & Ozark	--
Logmain	4334	1346	15	1300	283	1937	Industrial	Springfield Laundry	Springfield & Ozark	--
Logmain	4367	200	30	1307	--	1937	Domestic	Shumaker	Springfield Plateau	--
Logmain	4482	121	45	1343	34	1937	Domestic	Black	Springfield Plateau	--
Logmain	4483	355	150	1353	40	1937	Domestic	Teed	Springfield & Ozark	--
Logmain	4561	1230	360	1267	228	1937	Industrial	Springfield Ice	Ozark	--
Logmain	4701	1209	15	1280	303	1938	Industrial	Producers Creamery	Springfield & Ozark	--
Logmain	5618	377	25	1322	18	1939	Domestic	Cheek	Springfield & Ozark	--
Logmain	5934	469	25	1380	360	1940	Domestic	Crabb	Springfield & Ozark	--
Logmain	6235	1202	13	1267	285	1940	Industrial	Frank B. Smith Laundry	Springfield & Ozark	--
Logmain	6237	836	20	1337	355	1940	Domestic	Wells	Springfield & Ozark	--
Logmain	6772	425	330	1390	338	1940	Domestic	Mangan	Ozark	--
Logmain	8119	344	40	1350	126	1942	Domestic	Whittaker	Springfield & Ozark	--
Logmain	8137	128	20	1372	70	1942	Domestic	Murphy	Springfield Plateau	--
Logmain	9307	1211	--	1270	339	1942	Industrial	Frank Pilley & Sons	Springfield & Ozark	--
Logmain	9653	111	30	1342	85	1946	Domestic	Letsch	Springfield Plateau	--
Logmain	10749	--	--	1375	--	1940	Domestic	Crabb	Unknown	--
Logmain	11223	405	20	1366	342	1949	Domestic	Wingo	Springfield & Ozark	--
Logmain	12258	409	20	1351	310	1953	Domestic	Smith	Springfield & Ozark	--
Logmain	12399	505	15	1389	375	1953	Domestic	Lucas	Springfield & Ozark	--
Logmain	13317	643	25	1364	326	1955	Domestic	Berg	Springfield & Ozark	--
Logmain	13758	555	415	1375	380	1955	Domestic	Corum	Ozark	--
Logmain	13822	697	25	1390	385	1955	Domestic	Lurvey	Springfield & Ozark	--
Logmain	14658	480	20	1299	343	1956	Domestic	Campbell	Springfield & Ozark	--
Logmain	14722	370	130	1317	--	1956	Domestic	Bussey	Springfield & Ozark	--
Logmain	15408	396	20	1324	180	1956	Domestic	Steinert	Springfield & Ozark	--
Logmain	18591	440	25	1330	--	1959	Domestic	Wilhite	Springfield & Ozark	--
Logmain	22046	800	20	1385	--	1960	Industrial	Keystone Supply Co	Springfield & Ozark	--
Logmain	23374	425	20	1382	--	1960	Industrial	Acme Foundry Plant	Springfield & Ozark	--
Logmain	26723	1248	85	1318	405	1970	Industrial	Tri-State Laundry	Springfield & Ozark	--

Wells found within 1 to 2 miles of the site: 41

**2 to 3 Miles**

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
PDWP	100672	610	--	--	280	--	Community Public	Suburban Acres MoHo Pk	Ozark	--
PDWP	100676	1250	496	--	450	1971	Industrial	Paul Mueller Co	Ozark	200
PDWP	100680	755	350	--	--	1967	Community Public	Oak Shade Mobile Villa	Ozark	--
PDWP	100694	1627	410	--	479	1958	Industrial	G. E. Company	Ozark	1066
PDWP	101464	1193	320	--	235	1938	Non-community Public	Hickory Hills CC	Ozark	155
PDWP	105561	--	--	--	--	--	Non-community Public	Modern Day Veterans	Unknown	--

Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	111	1600	550	1338	345	1987	Domestic	--	Ozark	400
WIMS	1753	515	100	--	310	1987	Domestic	--	Springfield & Ozark	15
WIMS	3963	640	42	--	240	1987	Domestic	--	Springfield & Ozark	65
WIMS	4658	508	168	--	240	1987	Domestic	--	Springfield & Ozark	18
WIMS	5265	430	80	--	--	1988	Domestic	--	Springfield & Ozark	--
WIMS	5328	515	250	--	150	1988	Domestic	--	Ozark	30
WIMS	6884	358	162	1350	90	1988	Domestic	--	Springfield & Ozark	10
WIMS	8607	405	84	1200	150	1988	Domestic	--	Springfield & Ozark	25
WIMS	12667	500	255	--	160	1989	Domestic	--	Ozark	28
WIMS	13693	475	153	1280	250	1989	Domestic	--	Springfield & Ozark	50
WIMS	15454	598	212	1320	180	1989	Domestic	--	Springfield & Ozark	45
WIMS	20632	--	--	--	--	2000	Domestic	--	Unknown	--
WIMS	33332	640	255	1330	240	1989	Domestic	--	Ozark	35
WIMS	38859	468	--	1280	--	1990	Domestic	--	Springfield & Ozark	--
WIMS	46799	565	210	1330	270	1990	Domestic	--	Ozark	25
WIMS	55750	400	166	1220	150	1991	Domestic	--	Springfield & Ozark	35
WIMS	68636	935	357	1365	325	1991	Domestic	--	Ozark	150
WIMS	79480	625	189	1355	300	1992	Domestic	--	Springfield & Ozark	100
WIMS	79503	565	150	1270	250	1993	Domestic	--	Springfield & Ozark	70
WIMS	79505	505	168	--	300	1993	Domestic	--	Springfield & Ozark	30
WIMS	79512	645	168	--	300	1993	Domestic	--	Springfield & Ozark	80
WIMS	79518	585	168	1305	180	1993	Domestic	--	Springfield & Ozark	100
WIMS	126170	375	100	--	180	1994	Domestic	--	Springfield & Ozark	53
WIMS	135488	445	105	1250	200	1995	Domestic	--	Springfield & Ozark	40
WIMS	135506	365	105	1250	150	1995	Domestic	--	Springfield & Ozark	70
WIMS	158585	585	190	1310	200	1996	Domestic	--	Springfield & Ozark	60
WIMS	165278	652	--	--	--	1998	Domestic	--	Springfield & Ozark	--
WIMS	168383	450	240	--	150	1996	Domestic	--	Ozark	60
WIMS	175512	--	--	--	--	1998	Domestic	--	Unknown	--
WIMS	185628	625	256	1270	100	1997	Domestic	--	Ozark	60
WIMS	190931	515	100	--	180	1998	Domestic	--	Springfield & Ozark	60
WIMS	193054	880	318	--	220	1998	Domestic	--	Ozark	135
WIMS	199484	550	--	1280	--	1998	Domestic	--	Springfield & Ozark	--
WIMS	210148	425	105	--	150	1998	Domestic	--	Springfield & Ozark	30
WIMS	217869	565	252	--	--	2000	Domestic	--	Ozark	20
WIMS	232281	685	120	--	300	2001	Domestic	--	Springfield & Ozark	60
WIMS	233255	505	105	--	220	1999	Domestic	--	Springfield & Ozark	40
WIMS	239724	1200	400	--	300	2000	Domestic	--	Ozark	800
WIMS	248538	425	105	--	180	2000	Domestic	--	Springfield & Ozark	40
WIMS	248558	625	105	1370	320	2000	Domestic	--	Springfield & Ozark	50
WIMS	265862	425	105	--	240	2001	Domestic	--	Springfield & Ozark	30
WIMS	281889	585	168	1250	210	2003	Domestic	--	Springfield & Ozark	45
WIMS	281895	625	105	1340	300	2003	Domestic	--	Springfield & Ozark	50
WIMS	321533	738	270	--	300	2003	Domestic	--	Ozark	100

Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	337890	625	105	1340	450	2004	Domestic	--	Springfield & Ozark	60
WIMS	350462	550	100	--	210	2005	Domestic	--	Springfield & Ozark	40
WIMS	366007	330	140	--	120	2006	Domestic	--	Springfield & Ozark	40
WIMS	379215	665	252	--	350	2006	Domestic	--	Ozark	60
WIMS	402515	100	63	--	98	2007	Domestic	--	Springfield Plateau	--
WIMS	402518	246	168	--	--	2007	Domestic	--	Springfield Plateau	30
WIMS	420054	777	105	--	400	2008	Domestic	--	Springfield & Ozark	50
WIMS	421716	670	212	--	240	2009	Domestic	--	Ozark	70
WIMS	446331	650	231	--	260	2009	Domestic	--	Ozark	70
Logmain	2719	1220	740	1334	208	1933	Industrial	Producers Ice Co	Ozark	--
Logmain	2863	1215	15	1325	285	1934	Industrial	Merchants Creamery	Springfield & Ozark	--
Logmain	3193	1205	15	1274	225	1935	Industrial	Producers Creamery	Springfield & Ozark	--
Logmain	3595	148	20	1297	74	1936	Domestic	Gray	Springfield Plateau	--
Logmain	3685	900	42	1295	260	1936	Industrial	Pioneer Floral Co	Springfield & Ozark	--
Logmain	4149	852	35	1339	100	1937	Industrial	Eisenmayer Milling	Springfield & Ozark	--
Logmain	4157	370	75	1237	--	1937	Domestic	Smith	Springfield & Ozark	--
Logmain	5033	415	240	1310	--	1938	Domestic	Baker	Ozark	--
Logmain	5127	306	60	1282	235	1938	Domestic	Gorman	Springfield & Ozark	--
Logmain	5170	125	25	1359	--	1938	Domestic	Orr	Springfield Plateau	--
Logmain	5839	907	25	1305	285	1939	Domestic	Brinkman	Springfield & Ozark	--
Logmain	8052	--	--	1319	--	1934	Industrial	Merchants Creamery	Unknown	--
Logmain	8906	330	15	1248	--	1945	Domestic	Mann	Springfield & Ozark	--
Logmain	9459	1231	10	1286	426	1947	Industrial	Producers Produce Co	Springfield & Ozark	--
Logmain	9549	472	337	1368	330	1947	Domestic	Halbrook	Ozark	--
Logmain	10751	192	35	1286	15	1949	Domestic	Files	Springfield Plateau	--
Logmain	10760	60	20	1346	--	1948	Domestic	Patton	Springfield Plateau	--
Logmain	11024	65	30	1341	--	1949	Domestic	Rusher	Springfield Plateau	--
Logmain	11480	597	25	1379	310	1950	Domestic	Letsch	Springfield & Ozark	--
Logmain	11768	356	15	1349	290	1951	Domestic	Woolley	Springfield & Ozark	--
Logmain	11836	486	20	1310	282	1951	Domestic	Johnson	Springfield & Ozark	--
Logmain	12398	151	25	1364	104	1953	Domestic	Young	Springfield Plateau	--
Logmain	12422	443	110	1311	270	1953	Domestic	Busiek	Springfield & Ozark	--
Logmain	12663	456	9	1351	327	1953	Domestic	Burk	Springfield & Ozark	--
Logmain	12921	530	240	1370	337	1954	Domestic	Lovett	Ozark	--
Logmain	13066	135	15	1343	19	1954	Domestic	Sansone	Springfield Plateau	--
Logmain	13102	587	25	1367	369	1954	Domestic	Lemming	Springfield & Ozark	--
Logmain	13103	500	20	1360	318	1954	Domestic	Turk	Springfield & Ozark	--
Logmain	13476	469	35	1377	340	1955	Domestic	Thomas	Springfield & Ozark	--
Logmain	13733	462	30	1253	175	1955	Domestic	Kutz	Springfield & Ozark	--
Logmain	14095	575	30	1306	250	1955	Domestic	Brown	Springfield & Ozark	--
Logmain	14727	415	100	1350	315	1956	Domestic	Wilkenson	Springfield & Ozark	--
Logmain	15363	505	300	1277	280	1956	Domestic	Lusk	Ozark	--
Logmain	15846	469	15	1362	360	1957	Domestic	Lee	Springfield & Ozark	--
Logmain	16592	550	15	1382	370	1957	Domestic	Patterson	Springfield & Ozark	--

Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
Logmain	16917	435	35	1289	--	1957	Domestic	Shaddox	Springfield & Ozark	--
Logmain	19039	530	5	1352	--	1960	Domestic	Putney	Springfield & Ozark	--
Logmain	19191	460	15	1272	265	1960	Domestic	Morris	Springfield & Ozark	--
Logmain	19405	1625	20	1353	--	1960	Industrial	General Electric Co	Springfield & Ozark	--
Logmain	19842	520	25	1339	355	1961	Domestic	Morris	Springfield & Ozark	--
Logmain	19843	410	70	1274	285	1960	Domestic	Shultz	Springfield & Ozark	--
Logmain	20480	450	10	1320	145	1961	Domestic	Morris	Springfield & Ozark	--
Logmain	20717	405	15	1251	235	1961	Domestic	Cox	Springfield & Ozark	--
Logmain	20985	1055	10	--	--	1962	Industrial	Southwest Rendering Co	Springfield & Ozark	--
Logmain	23339	1255	25	1332	--	1964	Industrial	American Linen Supply	Springfield & Ozark	--
Logmain	24393	1225	30	1298	357	1966	Industrial	Pepsi Cola Bottling	Springfield & Ozark	--
Logmain	27005	1250	25	1290	420	1966	Industrial	Paul Mueller Co	Springfield & Ozark	--
Logmain	27459	685	25	1300	--	1967	Domestic	Alleger	Springfield & Ozark	--

Wells found within 2 to 3 miles of the site: 107

**3 to 4 Miles**

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
PDWP	100673	1275	405	--	500	1956	Industrial	Burlington Northern RR	Ozark	450
PDWP	100707	1740	632	--	406	1978	Municipal	Springfield	Ozark	1050
PDWP	104187	650	145	--	300	1968	Community Public	Cedar Hills Subd.	Springfield & Ozark	18
WIMS	1992	510	84	--	230	1987	Domestic	--	Springfield & Ozark	12
WIMS	2927	550	197	--	180	1987	Domestic	--	Springfield & Ozark	40
WIMS	3745	575	189	--	180	1987	Domestic	--	Springfield & Ozark	35
WIMS	3812	605	147	--	360	1987	Domestic	--	Springfield & Ozark	35
WIMS	3813	565	147	--	240	1987	Domestic	--	Springfield & Ozark	100
WIMS	3815	565	147	--	250	1987	Domestic	--	Springfield & Ozark	40
WIMS	3962	468	42	--	150	1987	Domestic	--	Springfield & Ozark	30
WIMS	4120	725	273	--	120	1987	Domestic	--	Ozark	40
WIMS	4121	622	210	--	150	1987	Domestic	--	Springfield & Ozark	50
WIMS	4574	545	84	1350	200	1987	Domestic	--	Springfield & Ozark	40
WIMS	4577	545	84	1300	250	1987	Domestic	--	Springfield & Ozark	25
WIMS	4599	425	84	1300	--	1987	Domestic	--	Springfield & Ozark	40
WIMS	4601	585	126	1400	--	1987	Domestic	--	Springfield & Ozark	40
WIMS	4836	465	147	1350	250	1988	Domestic	--	Springfield & Ozark	30
WIMS	5034	550	--	--	--	1986	Domestic	--	Springfield & Ozark	--
WIMS	5131	570	75	--	210	1986	Domestic	--	Springfield & Ozark	15
WIMS	6039	510	150	--	160	1987	Domestic	--	Springfield & Ozark	35
WIMS	6790	548	168	--	140	1988	Domestic	--	Springfield & Ozark	45
WIMS	6795	385	231	--	180	1988	Domestic	--	Ozark	120
WIMS	7280	560	170	--	150	1988	Domestic	--	Springfield & Ozark	50
WIMS	10362	430	208	1350	--	1988	Domestic	--	Springfield & Ozark	40
WIMS	10826	405	147	1200	150	1988	Domestic	--	Springfield & Ozark	30
WIMS	13619	488	85	1260	--	1989	Domestic	--	Springfield & Ozark	--
WIMS	13648	405	231	1300	150	1989	Domestic	--	Ozark	40



Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	15288	645	--	1400	--	1987	Domestic	--	Springfield & Ozark	--
WIMS	16459	510	190	1260	200	1988	Domestic	--	Springfield & Ozark	40
WIMS	16920	345	168	--	120	1988	Domestic	--	Springfield & Ozark	60
WIMS	18944	600	--	--	--	1996	Domestic	--	Springfield & Ozark	--
WIMS	20205	545	--	--	--	2002	Domestic	--	Springfield & Ozark	--
WIMS	26993	590	187	1315	230	1989	Domestic	--	Springfield & Ozark	30
WIMS	33344	540	250	1200	258	1989	Domestic	--	Ozark	40
WIMS	35161	650	153	1415	400	1989	Domestic	--	Springfield & Ozark	30
WIMS	35162	525	152	--	180	1989	Domestic	--	Springfield & Ozark	60
WIMS	42311	605	150	1290	230	1990	Domestic	--	Springfield & Ozark	45
WIMS	42966	--	--	--	--	1991	Domestic	--	Unknown	--
WIMS	46764	405	189	1255	150	1990	Domestic	--	Springfield & Ozark	40
WIMS	57540	620	--	1295	320	1991	Domestic	--	Springfield & Ozark	10
WIMS	60363	485	294	1240	150	1990	Domestic	--	Ozark	25
WIMS	67682	581	--	--	--	1991	Domestic	--	Springfield & Ozark	--
WIMS	68633	670	400	1235	220	1991	Domestic	--	Ozark	100
WIMS	68772	595	252	1355	150	1992	Domestic	--	Ozark	60
WIMS	75017	425	168	1350	180	1991	Domestic	--	Springfield & Ozark	25
WIMS	75267	565	147	1265	200	1992	Domestic	--	Springfield & Ozark	70
WIMS	75289	365	189	1190	180	1992	Domestic	--	Springfield & Ozark	40
WIMS	77704	600	255	--	210	1992	Domestic	--	Ozark	40
WIMS	79519	405	147	1210	120	1993	Domestic	--	Springfield & Ozark	40
WIMS	83953	580	163	1295	280	1992	Domestic	--	Springfield & Ozark	30
WIMS	88305	405	147	1295	210	1992	Domestic	--	Springfield & Ozark	25
WIMS	90405	615	231	--	340	1993	Domestic	--	Ozark	40
WIMS	92817	500	212	1280	120	1993	Domestic	--	Springfield & Ozark	60
WIMS	95779	465	150	1295	200	1993	Domestic	--	Springfield & Ozark	40
WIMS	95787	505	105	--	300	1994	Domestic	--	Springfield & Ozark	45
WIMS	95792	505	105	1365	150	1994	Domestic	--	Springfield & Ozark	35
WIMS	98639	405	210	1310	180	1994	Domestic	--	Springfield & Ozark	100
WIMS	98640	625	210	1339	300	1994	Domestic	--	Springfield & Ozark	65
WIMS	98655	405	105	1235	150	1994	Domestic	--	Springfield & Ozark	80
WIMS	120699	505	105	1285	260	1994	Domestic	--	Springfield & Ozark	60
WIMS	120747	625	210	1270	250	1994	Domestic	--	Springfield & Ozark	60
WIMS	127832	595	316	1300	150	1995	Domestic	--	Ozark	40
WIMS	138199	450	255	1235	210	1996	Domestic	--	Ozark	30
WIMS	143168	685	170	--	180	1995	Domestic	--	Springfield & Ozark	100
WIMS	143202	465	210	1325	250	1995	Domestic	--	Springfield & Ozark	45
WIMS	143215	505	105	1275	200	1995	Domestic	--	Springfield & Ozark	50
WIMS	147453	545	189	1275	120	1995	Domestic	--	Springfield & Ozark	100
WIMS	148208	590	254	1240	230	1996	Domestic	--	Ozark	30
WIMS	149477	496	106	1270	180	1996	Domestic	--	Springfield & Ozark	50
WIMS	155794	605	189	1380	360	1996	Domestic	--	Springfield & Ozark	20
WIMS	156832	565	100	--	121	1996	Domestic	--	Springfield & Ozark	45

Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	158490	660	100	1375	360	1996	Domestic	--	Springfield & Ozark	50
WIMS	167379	556	190	--	240	1996	Domestic	--	Springfield & Ozark	80
WIMS	167394	596	253	1340	340	1996	Domestic	--	Ozark	75
WIMS	169925	365	105	1310	200	1996	Domestic	--	Springfield & Ozark	30
WIMS	170006	600	100	1245	160	1997	Domestic	--	Springfield & Ozark	50
WIMS	170097	660	120	--	180	1997	Domestic	--	Springfield & Ozark	70
WIMS	172434	700	203	--	--	1996	Domestic	--	Springfield & Ozark	104
WIMS	172435	1300	215	--	--	1997	Domestic	--	Springfield & Ozark	533
WIMS	172669	510	100	--	140	1997	Domestic	--	Springfield & Ozark	40
WIMS	174293	--	--	--	--	1999	Domestic	--	Unknown	--
WIMS	183024	565	380	--	280	2006	Domestic	--	Ozark	--
WIMS	185304	505	105	1300	180	1997	Domestic	--	Springfield & Ozark	40
WIMS	189246	510	220	--	180	1997	Domestic	--	Ozark	30
WIMS	191086	710	211	--	395	1999	Domestic	--	Springfield & Ozark	30
WIMS	192004	705	273	1320	300	1997	Domestic	--	Ozark	80
WIMS	200924	--	--	--	--	1998	Domestic	--	Unknown	--
WIMS	200925	601	200	--	300	1998	Domestic	--	Springfield & Ozark	35
WIMS	208700	645	105	--	90	1998	Domestic	--	Springfield & Ozark	30
WIMS	211241	450	275	1350	140	1999	Domestic	--	Ozark	60
WIMS	211789	545	105	--	200	1998	Domestic	--	Springfield & Ozark	60
WIMS	212097	548	105	1250	--	1998	Domestic	--	Springfield & Ozark	80
WIMS	215504	545	105	1280	210	1999	Domestic	--	Springfield & Ozark	30
WIMS	215509	505	147	1270	120	1999	Domestic	--	Springfield & Ozark	60
WIMS	226056	505	105	1370	150	1999	Domestic	--	Springfield & Ozark	60
WIMS	227111	425	105	--	180	1999	Domestic	--	Springfield & Ozark	50
WIMS	228191	505	105	--	180	1999	Domestic	--	Springfield & Ozark	40
WIMS	228936	610	190	--	--	2000	Domestic	--	Springfield & Ozark	35
WIMS	233254	425	105	1240	200	1999	Domestic	--	Springfield & Ozark	40
WIMS	233682	605	189	--	--	2000	Domestic	--	Springfield & Ozark	30
WIMS	236916	650	295	1250	265	2000	Domestic	--	Ozark	50
WIMS	238861	450	105	--	160	2000	Domestic	--	Springfield & Ozark	35
WIMS	241017	656	--	--	--	2000	Domestic	--	Springfield & Ozark	--
WIMS	248536	605	105	1310	280	2000	Domestic	--	Springfield & Ozark	30
WIMS	248687	745	--	--	--	2000	Domestic	--	Springfield & Ozark	--
WIMS	248694	625	189	1400	300	2000	Domestic	--	Springfield & Ozark	45
WIMS	249104	683	232	1350	--	2000	Domestic	--	Ozark	50
WIMS	249205	625	160	1330	270	2000	Domestic	--	Springfield & Ozark	60
WIMS	251107	605	189	--	300	2001	Domestic	--	Springfield & Ozark	40
WIMS	253947	665	210	1450	420	2000	Domestic	--	Springfield & Ozark	70
WIMS	261225	605	105	1360	300	2001	Domestic	--	Springfield & Ozark	40
WIMS	281465	602	189	1250	170	2002	Domestic	--	Springfield & Ozark	80
WIMS	281754	605	231	1290	200	2002	Domestic	--	Ozark	60
WIMS	281904	645	200	1390	360	2003	Domestic	--	Springfield & Ozark	50
WIMS	282468	607	190	--	150	2001	Domestic	--	Springfield & Ozark	70

Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
WIMS	288317	685	210	1250	210	2002	Domestic	--	Springfield & Ozark	50
WIMS	309128	525	147	1250	210	2003	Domestic	--	Springfield & Ozark	50
WIMS	318672	610	190	--	240	2004	Domestic	--	Springfield & Ozark	40
WIMS	328072	685	252	1360	360	2004	Domestic	--	Ozark	60
WIMS	343114	565	105	--	210	2004	Domestic	--	Springfield & Ozark	50
WIMS	343127	545	105	--	270	2004	Domestic	--	Springfield & Ozark	60
WIMS	350467	530	105	--	240	2005	Domestic	--	Springfield & Ozark	40
WIMS	361624	760	294	--	300	2005	Domestic	--	Ozark	120
WIMS	362134	745	210	--	120	2005	Domestic	--	Springfield & Ozark	50
WIMS	366877	560	189	--	180	2006	Domestic	--	Springfield & Ozark	50
WIMS	367000	705	105	--	360	2005	Domestic	--	Springfield & Ozark	40
WIMS	376323	605	105	--	180	2006	Domestic	--	Springfield & Ozark	45
WIMS	376368	545	105	--	320	2006	Domestic	--	Springfield & Ozark	40
WIMS	377978	510	209	--	310	2006	Domestic	--	Springfield & Ozark	30
WIMS	378938	500	294	--	150	2006	Domestic	--	Ozark	80
WIMS	379636	500	105	--	160	2007	Domestic	--	Springfield & Ozark	50
WIMS	379968	630	190	--	310	2006	Domestic	--	Springfield & Ozark	70
WIMS	396534	550	189	--	210	2008	Domestic	--	Springfield & Ozark	40
WIMS	403483	610	105	--	289	2008	Domestic	--	Springfield & Ozark	40
WIMS	413942	520	105	--	150	2007	Domestic	--	Springfield & Ozark	40
WIMS	420058	705	105	--	250	2008	Domestic	--	Springfield & Ozark	40
WIMS	421996	600	252	1195	120	2009	Domestic	--	Ozark	120
Logmain	1883	900	32	1301	--	1910	Industrial	St. Louis & Frisco RR	Springfield & Ozark	--
Logmain	1923	900	30	1301	--	1910	Industrial	Frisco New Shops	Springfield & Ozark	--
Logmain	3406	333	100	1308	200	1935	Domestic	Shaffer	Springfield & Ozark	--
Logmain	3448	127	10	1278	30	1935	Domestic	Holt.	Springfield Plateau	--
Logmain	3546	60	15	1238	--	1936	Domestic	Yager	Springfield Plateau	--
Logmain	4036	138	15	1245	108	1936	Domestic	Clas	Springfield Plateau	--
Logmain	4409	422	135	1267	--	1937	Domestic	Hall	Springfield & Ozark	--
Logmain	4463	196	40	1312	--	1937	Domestic	Rothamel	Springfield Plateau	--
Logmain	4469	355	30	1315	--	1937	Domestic	Harmon	Springfield & Ozark	--
Logmain	4921	450	40	1292	30	1938	Domestic	Brayman	Springfield & Ozark	--
Logmain	4974	97	25	1272	--	1938	Domestic	Nelson	Springfield Plateau	--
Logmain	5275	105	10	1236	--	1939	Domestic	Jones	Springfield Plateau	--
Logmain	5294	190	25	1309	25	1939	Domestic	Brite	Springfield Plateau	--
Logmain	5400	868	310	1358	265	1939	Domestic	Eisenmayer	Ozark	--
Logmain	5584	195	28	1200	80	1939	Domestic	Stone	Springfield Plateau	--
Logmain	5617	422	222	1270	--	1939	Domestic	Sharp	Ozark	--
Logmain	5758	410	275	1365	--	1939	Domestic	Garvin	Ozark	--
Logmain	5770	435	335	1392	--	1939	Domestic	Thompson	Ozark	--
Logmain	6045	477	256	1372	280	1940	Domestic	Brixy	Ozark	--
Logmain	6046	364	311	1365	262	1940	Domestic	Wheeler	Ozark	--
Logmain	6174	167	8	1196	34	1940	Domestic	Webb	Springfield Plateau	--
Logmain	6317	399	17	1340	240	1940	Domestic	Kithcart	Springfield & Ozark	--

Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
Logmain	6775	352	55	1234	140	1940	Domestic	Appleby	Springfield & Ozark	--
Logmain	6776	463	20	1312	288	1940	Domestic	Batchelder	Springfield & Ozark	--
Logmain	7833	421	30	1280	--	1942	Domestic	Bates	Springfield & Ozark	--
Logmain	7914	425	35	1274	183	1942	Domestic	Camp	Springfield & Ozark	--
Logmain	9002	335	50	1330	235	1945	Domestic	Turner	Springfield & Ozark	--
Logmain	9143	500	10	1300	250	1946	Domestic	Tolliver	Springfield & Ozark	--
Logmain	9903	140	20	1365	100	1946	Domestic	Kennemer	Springfield Plateau	--
Logmain	10277	447	100	1255	--	1948	Domestic	Deck Brothers	Springfield & Ozark	--
Logmain	10750	445	310	1321	--	1947	Domestic	Rhodes	Ozark	--
Logmain	10753	175	5	1287	60	1947	Domestic	Filbeck	Springfield Plateau	--
Logmain	10880	483	15	1349	306	1949	Domestic	Allen	Springfield & Ozark	--
Logmain	11026	160	19	1285	--	1948	Domestic	Cochran	Springfield Plateau	--
Logmain	11309	110	15	1282	--	1950	Domestic	Arnold	Springfield Plateau	--
Logmain	11840	428	20	1314	265	1951	Domestic	Daniel	Springfield & Ozark	--
Logmain	12157	155	65	1287	--	1952	Domestic	Wilhoit	Springfield Plateau	--
Logmain	12578	527	455	1247	365	1953	Domestic	Dulin	Ozark	--
Logmain	12662	560	25	1354	317	1953	Domestic	Steed	Springfield & Ozark	--
Logmain	12937	445	20	1270	210	1954	Domestic	Diesel	Springfield & Ozark	--
Logmain	13258	620	10	1260	268	1954	Domestic	Rosen	Springfield & Ozark	--
Logmain	13478	827	100	1346	--	1955	Domestic	Cox	Springfield & Ozark	--
Logmain	14800	1275	35	1298	345	1956	Industrial	Frisco Railroad	Springfield & Ozark	--
Logmain	15841	355	55	1276	240	1956	Domestic	McFarland	Springfield & Ozark	--
Logmain	15851	543	10	1345	344	1956	Domestic	Hopkins	Springfield & Ozark	--
Logmain	16254	345	15	1314	155	1957	Domestic	Sallee	Springfield & Ozark	--
Logmain	16276	375	10	1331	270	1957	Domestic	Webb	Springfield & Ozark	--
Logmain	16603	443	35	1342	310	1957	Domestic	Price	Springfield & Ozark	--
Logmain	16613	487	30	1343	312	1957	Domestic	Sheedy	Springfield & Ozark	--
Logmain	16908	475	40	1289	295	1957	Domestic	Whitehair	Springfield & Ozark	--
Logmain	16910	477	--	1372	330	1940	Domestic	Brixey	Springfield & Ozark	--
Logmain	17077	403	5	1238	220	1958	Domestic	Busiek	Springfield & Ozark	--
Logmain	17143	465	10	1307	280	1958	Domestic	Harbison	Springfield & Ozark	--
Logmain	17298	745	35	1354	344	1958	Domestic	Danner	Springfield & Ozark	--
Logmain	17599	462	15	1315	280	1958	Domestic	Hartley	Springfield & Ozark	--
Logmain	17600	393	20	1287	265	1958	Domestic	Potter	Springfield & Ozark	--
Logmain	17652	460	15	1246	--	1958	Domestic	Lyons	Springfield & Ozark	--
Logmain	18706	470	30	1291	285	1959	Domestic	Lehar	Springfield & Ozark	--
Logmain	18708	455	25	1286	285	1959	Domestic	Wilcox	Springfield & Ozark	--
Logmain	19037	460	15	1303	265	1960	Domestic	Arwood	Springfield & Ozark	--
Logmain	19481	499	20	1234	180	1960	Domestic	Fritts	Springfield & Ozark	--
Logmain	19512	520	325	1315	320	1960	Domestic	Woodbury	Ozark	--
Logmain	20763	617	20	1286	--	1962	Domestic	Fisher	Springfield & Ozark	--
Logmain	21000	380	20	1236	220	1962	Domestic	Fite	Springfield & Ozark	--
Logmain	21333	150	20	1313	80	1962	Domestic	Bates	Springfield Plateau	--
Logmain	21334	560	--	1354	317	1953	Domestic	Steed	Springfield & Ozark	--



Non-monitoring wells located within 4 miles of the Solo Cup Manufacturing Facility site.

Source	Well ID	Depth	Casing	Elev.	SWL	Date	Use	Owner	Aquifer	Yield
Logmain	21732	385	25	1275	147	1963	Domestic	Frederick	Springfield & Ozark	--
Logmain	21941	325	15	1238	--	1964	Domestic	Crow	Springfield & Ozark	--
Logmain	23444	440	40	1335	200	1965	Domestic	Kleiber	Springfield & Ozark	--
Logmain	26073	500	20	1240	340	1968	Domestic	Tinsley	Springfield & Ozark	--
Logmain	26795	395	10	1258	--	1968	Domestic	West	Springfield & Ozark	--
Logmain	26840	525	35	1352	--	1968	Domestic	Anderson	Springfield & Ozark	--

Wells found within 3 to 4 miles of the site: 209

**Table 2: Aquifer, Stratigraphy, and Hydrology of the Solo Cup Manufacturing Facility Site**

System	Stratigraphic Unit	Thickness (feet)	Lithology	Nature of Porosity and Permeability	Hydraulic Conductivity (cm/sec)	Hydrologic Unit
Post Mississippian	Soil and Regolith	30	Silty clay, cherty	Intergranular space throughout matrix with exception of clay; Moderate permeability	$1.4 \times 10^{-3}$ - $4.2 \times 10^{-5}$	None
Mississippian	Burlington-Keokuk Limestones, Elsey-Reeds Spring Formation, and Pierson Limestone	200	Cherty, coarse-grained, fossiliferous limestone	Limestone bedding separations, fractures, and dissolution features; High permeability	$7.8 \times 10^{-3}$	Springfield Plateau Aquifer
	Chouteau Group (Compton Limestone and Northview Formation)	40	Argillaceous limestone and shale	Bedding separations, fractures, and possible dissolution features; Moderately low permeability	$1 \times 10^{-5}$ - $5 \times 10^{-6}$	Ozark Confining Unit
Ordovician	Cotter and Jefferson City Dolomites, Roubidoux Formation, and Gasconade Dolomite	1175	Dolomite, cherty dolomite, sandstone, dolomitic sandstone, argillaceous dolomite, and minor shales	Bedding separations and fractures; Moderate permeability	$1 \times 10^{-4}$ - $1 \times 10^{-5}$	Ozark Aquifer
Cambrian	Eminence and Potosi Dolomites					
	Derby-Doe Run Dolomites and Davis Formation	> 155	Medium-crystalline dolomite with beds of silt, shale, and sand	Bedding separations and fractures; Low permeability	$1 \times 10^{-8}$	St. Francois Confining Unit

Data is from Davis, 1969; Imes and Smith, 1990; Imes and Emmett, 1994; and MDNR/DGLS well log records.

**Table 3: Springs located within 4 miles of the Solo Cup Manufacturing Facility Site.**

GISID	PRIMARY NAME	LOCATION	SECTION	TOWNSHIP	RANGE	ELEVATION	FLOW
770136	MILL STREET SPRING	NE1/4, NW1/4, NE1/4	22	29N	21W	1280	100 gpm - 1 cfs
770166	GREEN LAWN NORTH SPR	NW1/4, NW1/4, NW1/4	6	29N	21W	1195	10-100 gpm
770167	GREEN LAWN SOUTH SPR	NW1/4, NW1/4, NW1/4	6	29N	21W	1210	10-100 gpm
770113	ELFINDALE SPRING	NW1/4, SW1/4, SW1/4	26	29N	22W	1230	No flow data
770009	JONES SPRING	SW1/4, SW1/4, NE1/4	27	29N	21W	1300	1-10 cfs
770036	CENTRAL BIBLE COLL.	SE1/4, NE1/4, SE1/4	2	29N	22W	1195	No flow data
770037	DOLING PARK SPRING	SW1/4, NE1/4, SW1/4	1	29N	22W	1225	No flow data
770046	UNNAMED SPRING	SE1/4, SW1/4, NW1/4	2	29N	22W	1200	No flow data
770047	MIDDLE SOUTHERN HILLS SPRING	NE1/4, SE1/4, SW1/4	33	29N	21W	1260	No flow data
770051	BONE BREAK SPRING	SW1/4, NW1/4, NE1/4	27	29N	21W	1300	100 gpm - 1 cfs
770084	VICH SPRING	SE1/4, NE1/4, SW1/4	3	29N	22W	1260	No flow data
770090	SILVER SPRING	NE1/4, SW1/4, NW1/4	18	29N	21W	1300	No flow data
770105	UNNAMED SPRING	SE1/4, SE1/4, NW1/4	28	29N	21W	1370	10-100 cfs
770110	UNNAMED SPRING	NE1/4, SE1/4, SE1/4	2	29N	22W	1210	No flow data
770115	DOLING PARK CAVE SPRING	NW1/4, NE1/4, SW1/4	1	29N	22W	1260	No flow data
770127	SNOW SPRING NORTH	NE1/4, NE1/4, NW1/4	35	29N	21W	1190	No flow data
770129	COUNTRY CLUB CAVE SP	SE1/4, NW1/4, NE1/4	22	29N	21W	1300	10-100 gpm
770132	ROYAL CAVE SPRING	NW1/4, SE1/4, NW1/4	26	29N	21W	1250	10-100 gpm
770194	UNNAMED SPRING	SE1/4, SE1/4	4	29N	21W	1360	No flow data
770195	VALLEY WATER MILL SPRING	NE1/4, SE1/4	5	29N	21W	1210	1-10 cfs
770196	SHOTGUN SPRING	NW1/4, NE1/4	5	29N	21W	1190	No flow data
770205	NORTH CRK IND PRK SPRING	SW1/4, SW1/4	4	29N	21W	1330	1-10 gpm
770211	UNNAMED SPRING	--	3	29N	21W	1260	No flow data
770212	UNNAMED SPRING	SW1/4, NW1/4, NE1/4	12	29N	22W	1290	No flow data
770213	UNNAMED SPRING	NE1/4, NE1/4, NE1/4	24	29N	22W	1290	No flow data
770282	BATTLEFIELD SPRING	SE1/4,SE1/4,NW1/4	4	28N	21W	1233	No flow data
770283	CATHOLIC HIGH SCHOOL SPRING	NW1/4,NE1/4,SW1/4	34	29N	21W	1310	No flow data
770284	COX SPRING	SE1/4,SW1/4,NE1/4	27	29N	21W	1255	No flow data
770286	FAUNA SPRING	SE1/4,SW1/4,SW1/4	11	29N	21W	1315	10-100 gpm
770289	JONES BRANCH SPRING	NW1/4,SE1/4,NE1/4	27	29N	21W	1225	1-10 gpm
770294	PERSHING SPRING	SW1/4,NW1/4,SW1/4	33	29N	21W	1283	No flow data
770295	PISGAH SPRING	SW1/4,SW1/4,NE1/4	26	29N	21W	1250	No flow data
770299	SOUTH SOUTHERN HILLS SPRING	NE1/4,NW1/4,NW1/4	4	28N	21W	1245	No flow data
770304	UPPER SOUTHERN HILLS SPRING	SE1/4,SE1/4,NW1/4	33	29N	21W	1285	No flow data
770364	DINGLEDEIN SPRING	SE1/4,NW1/4,NW1/4	23	29N	22W	1260	No flow data
770365	BBC NORTH SPRING	NE1/4,NE1/4,NW1/4	12	29N	22W	1295	No flow data

GISID	PRIMARY NAME	LOCATION	SECTION	TOWNSHIP	RANGE	ELEVATION	FLOW
770369	FASSNIGHT PARK SPRING	SW1/4,SE1/4,NE1/4	26	29N	22W	1255	No flow data
770371	GRANT BEACH PARK SPRING	SW1/4,SW1/4,NE1/4	14	29N	22W	1300	No flow data
770372	JEFFERSON SPRING	NW1/4,NE1/4,NW1/4	1	28N	22W	1280	No flow data
770374	JONES SPRING	NW1/4,SE1/4,SE1/4	13	29N	22W	1280	No flow data
770375	JORDAN CREEK SPRING	SE1/4,NE1/4,NE1/4	23	29N	22W	1275	No flow data
770376	LYMAN SPRING	NE1/4,NW1/4,NW1/4	24	29N	22W	1285	No flow data
770378	PHELPS GROVE SPRING	NE1/4,NW1/4,SE1/4	25	29N	22W	1284	No flow data
770380	SUNSET STREET SPRING	NE1/4,NW1/4,NW1/4	1	28N	22W	1275	No flow data
770402	JARRETT SPRING	--	5	29N	21W	1200	No flow data
770403	RATHBONE SPRING	--	3	29N	21W	1280	No flow data
770404	SANDERS SPRING	--	5	29N	21W	1215	No flow data
770406	DAVIS SPRING	--	1	29N	22W	1225	No flow data
770407	DICKERSON PARK SPRING	--	2	29N	22W	1170	10-100 cfs
770408	AMITY CAVE SPRING	--	2	29N	22W	1235	No flow data
770409	DOLING PARK CAVE SPRING #3	--	1	29N	22W	1250	No flow data
770410	DOLING PARK CAVE SPRING # 2	--	1	29N	22W	1250	No flow data
770411	UNNAMED SPRING	--	1	29N	22W	1280	No flow data
770412	UNNAMED SPRING	--	3	29N	22W	1210	No flow data

Springs are from DGLS spring database. Locations were autoplotted by ArcView from UTM coordinates. Projected springs have not been field checked.



## Final hours for Solo Cup plant

The final hours are at hand for the Solo Cup plant, a Springfield manufacturing institution for nearly 60 years.

The final shift at the plant at 1100 N. Glenstone Ave. will end at 7 a.m. today, said Mike Brumley, president of IBEW Local 1553.

Solo Cup Co. announced plans to close the plant in June 2010. The shutdown puts about 340 people out of work.

"It was a terrific place to work," said Brumley, who has worked at the plant since 1983. "There's been many generations of family work there."

Employees at Solo earned an average of \$11 to \$19 an hour if they had seniority; starting wages were about \$8 an hour, Brumley said in 2010.

The plant opened in 1952 as Lily Tulip. Though employment levels have waned in recent years, the plant employed more than 1,200 as recently as 1993.

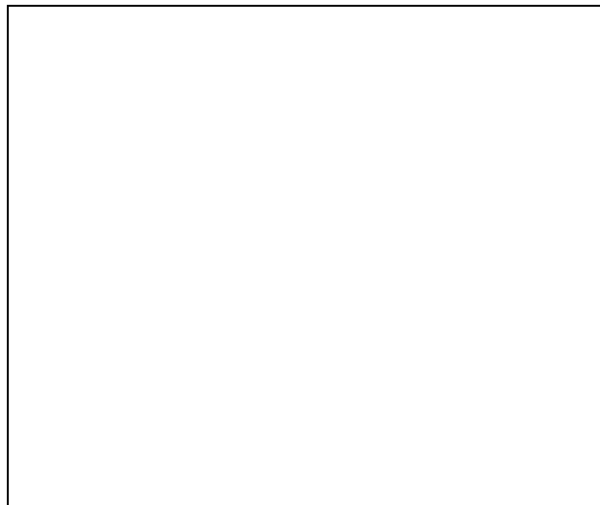
Solo Cup acquired the Springfield plant -- then called Sweetheart Cup -- in February 2004 when it bought SF Holdings, Sweetheart's parent company.

John E. Sellars, executive director of the History Museum for Springfield-Greene

County, has a personal connection to the plant -- his father worked there 26 years.

"It's a sense of loss, not only personally but for the community," Sellars said. "It was such an identity. It's a loss for the city."

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## History

1952: Augusta, Ga.-based Lily Tulip opens the factory. The plant employs about 1,700. Its entrance is designed to look like a giant white paper cup. Real estate investor C. Arch Bay is instrumental in bringing the company to Springfield.

1984: Lily Tulip completes a \$4.5 million plant expansion.

1986: Publicly traded Fort Howard Cup Corp., a Green Bay, Wis., company, buys Lily Tulip. The Springfield plant's name remains Lily Tulip.

1986: Lily Tulip lays off 225 workers, leaving a work force of about 1,100.

1987: 1,150 Lily Tulip employees agree to a 6 percent pay cut, a two-year wage freeze and reduced benefits to guarantee their jobs.

1988: A group of investors buys Fort Howard, taking the company private.

1989: Sweetheart Cup Co. of Chicago buys Fort Howard, including the Springfield plant.

1989: Springfield Sweetheart plant lays off about 300 workers, leaving a work force of 900.

1993: Sweetheart's work force grows to about 1,300 employees, making it one of Springfield's top employers.

1997: Sweetheart lays off 140 workers.

1998: Sweetheart merges with Valhalla, N.Y.-based Fonda Group Inc. The company has 850 employees at the Springfield plant.

2001: Sweetheart announces it will lay off 200 employees, leaving a work force of about 400.

2004: Chicago-based Solo Cup buys Sweetheart.

2005: Solo announces it will close the plant by the year's end.

2006: Plans to close the plant are called off after Solo signs a new five-year contract with the union.

June 2010: Solo announces plans to close the plant.

July 30, 2010: Solo agrees to sell the plant to Warren Davis Properties LLC for about \$7.9 million.

March 2, 2011: The final regular shift at Solo Cup-Springfield reports for work at 11 p.m. Wednesday. Shift ends at 7 a.m. today.

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